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THE GAIN AND LOSS OF COMPETITIONS.

WE have devoted many articles to the subject of competitions, but there is one side of the question we have not fully considered, *i.e.*, the architectural objects that we should primarily seek to obtain through their medium. There is the point of view of the public body accustomed to obtain competitive tenders for everything they may require, and who, when they find it necessary to erect a public building, consider that, as professional fees are fixed and they will have to pay at the same rate for any services they may require, they may at least obtain, in what may be described as the open market, the services of an architect who can show them the most suitable scheme for their requirements. The members of a public body also frequently think that by giving an architect a direct commission they will lay themselves open to a charge of nepotism which they naturally wish to avoid. The first of these reasons has much to commend it, as it is based on a desire to obtain the best possible result for the public body. The second is not so admirable, as it involves a dislike to take responsibility, though again it may be based on a very natural and proper desire to avoid a decision which a public body believes it has not the adequate knowledge to make with the certainty of a good result. Among architects, on the other hand, especially the younger members of the profession, the general feeling is that a competition is one of the only means by which they have the chance of securing an important commission, and most of them believe in the system as affording them their greatest opportunity in a world of struggle. Older architects are either believers in competition if they have secured their first work by its means, or else look upon it as a somewhat unfair method of taking away the commissions which represent the cream of architectural practice from those whose executed work has given them a certain claim to consideration. They point to the fact that when an unknown man wins a competition and secures an important commission his clients may suffer by his inexperience, and they say, with some vehemence, that the best men in the profession are precluded because actual work does not leave them time to give to the consideration of problems. It is also, and with some justice, pointed out that competition encourages a superficial and showy method of design and draughtsmanship, and that quiet and well-considered work is overlooked. Another objection, which is in part well founded, is that the practice of obtaining a great deal of work to select from for nothing lowers the average man's opinion of the value of professional services. That this is true is frequently proved by little incidents which occur from time to time. We met a solicitor for whom an architect had carried out a house costing £2,000, who complained to us that he had obtained only one man's ideas! How much better, he said, it would have been "had I had fifty designs to choose from!" We told him that instead of paying £100 for professional services he might in such a case, even had he been able to induce architects to compete for a small house, have had to pay several hundred pounds or premiums, which made him reflect there were disadvantages as well as advantages in competition, but such points would not be raised were it not for the fact that the public are accustomed to the spectacle of what we may term the "competition rush."

But all the points of view we have stated are largely the result of the mental trend induced by considerations of personal expediency; what is really important, and is often overlooked, is the gain or loss to our architecture and the character of architects by the adoption of the competitive method considered as a means to an end—the production of architecture.

We are firmly convinced, in the first place, that competition for small buildings should be discouraged, except in special cases, by every possible means. It is lamentable to see a hundred professional men competing for the opportunity of carrying out a five thousand pound commission, and we are not sure whether it would not be wise if the R.I.B.A. prevented its members from competing for anything so small. The great gain to be obtained from well-conducted competition seems to be the systematic study of planning as an art, which it inculcates and makes necessary. A study of the contemporary work of to-day in comparison with that produced thirty years ago will illustrate our point, much of the planning of the former period appearing to us now as rather clumsy placing of accommodation together. Compared with the best planning of to-day, it is the work of amateurs.

The planning of the seventeenth and eighteenth centuries was on broad and often noble lines, but as regards the subdivision and allocation of accommodation for practical requirements, it would not pass present standards, and no one would put up with the kitchen arrangements of Blenheim Palace for any æsthetic consideration whatsoever. The planning of the decades between 1860 and 1890 was in the main good utilitarian planning with little imagination.

Competition practice has gone far to teach men how to combine these two standards, welding them into a single system, with the result that in the hands of our best architects a plan possesses architectural unity and meaning. On the purely architectural side the gain has been smaller, as the improvement in architectural treatment has hardly kept pace with the immense improvement in planning which is the chief net gain of the competitive system. The other gains are the opportunity given to unknown genius to manifest itself and the recognition it compels that merit is not necessarily synonymous with experience. The loss is chiefly in a depreciation of the value attached to an architect's value in the eyes of the public, but that is in our view solely the outcome of the large number of competitions held for buildings of insignificant size, and the loss of the services of such men as Norman Shaw, whose name is only associated with one great public building. But on the whole we believe the gain accruing to architecture, and therefore to the community, is considerably greater than the loss.

If we were free to take every means to produce the best result, we should, in some cases, attain it by giving to a gifted architect the plan worked out by someone who has been through the competitive mill—the only method we know of by which absolute proficiency in imaginative planning can be gained. But such a solution is like the attempt to obtain the best in two worlds—impossible, and we can only be grateful for the fact that among competing architects there are many who are gifted architects in the full sense of the word. But even these have cause to reflect that it is easy to fall into the error of trying to put too much into a given space. The excellent courses arranged at our architectural schools, continued by the experience of competing, form an admirable educational training, for the students of to-day will have learnt too much of the architecture of the past to fall into the trap of architectural cleverness and trickery which used to be so common. We think the method of training the student to design after some well-known architect's "manner" is a most excellent practice, for he will learn in most cases how simply the greatest architectural thoughts can be expressed, and a comparison with the original model will show him that the right thing is frequently rather to omit than to add.

We are sure that it would be a good thing to reduce the number of competitions open to the profession, and, as far as possible, confine them to buildings of a certain standard of importance, and, above all, to frame conditions so

that they may leave a wide channel for free thought and treatment, and avoid the senseless and irritating restrictions too frequently laid down. Conditions may be the reasonable statement of definite wants or an invitation to attempt architectural jugglery. But whatever the conditions be, they should in justice be held to be binding on the assessor as well as on the competitor. And we hope in the future to see a greater reversion to the school of Wren, Chambers, and Gibbs, in whose work there is an admirable freedom from antiquarianism and self-consciousness, while some of our later architects are like learned men who cannot speak without an abounding use of foreign quotations, which can be only understood by the learned—a fact which is not in their favour, as we need architecture more than pedantry.

NOTES.

Architects and St. George's, Hanover-square.

WE like the suggestion which has been made in certain quarters that some attempt should be made to put up a memorial in St. George's, Hanover-square, in the parish of which the premises of the Royal Institute of British Architects are situated, to those architects who fall in active service. It should not be difficult to obtain the necessary sanction for such a proposal, nor should the expense attached to it be one which the Institute as a body, or members of the Institute acting in a private capacity as individual subscribers, should feel any difficulty in meeting, and it would form a record of what architects as a body had done in a time of great national crisis. That the Institute should keep its own roll of honour is fitting, but it would be giving those who have given up their lives in the service of their country a more fitting and permanent record if a memorial or memorial tablet were erected in a church so well known as St. George's.

German Destruction.

A PAMPHLET published by a Westerham printer gives a useful and complete account of the various acts of destruction of architectural monuments which have been committed by the German armies in Belgium and France, and the various resolutions of protest passed by learned and other societies, as well as the newspaper reports which have appeared in the Press of various countries concerning them, the whole forming a stirring indictment of the barbarous conditions under which the German Government is waging the present war. The conditions as to the preservation of historic monuments in war agreed to by the signatory powers at The Hague conferences are also quoted, by which all the powers solemnly bind themselves to respect such buildings unless they are used by an enemy for purposes of war. The German reply in each case is either a denial that damage has been done, or else a statement that the buildings in question have been used for military purposes, and that therefore their destruction is warranted and excusable. Perhaps the most striking of all the documents referred to is the Report by Professor Clemen, of Bonn, Chairman of the Commission on Historic Monuments in the Rhine provinces, which was written in December and published in the *Journal* of the American Institute of Architects in March, in which he states "that nowhere on Belgian ground have irreplaceable architectural works been lost," and goes on to explain that even among the horrors of war German art lovers may be assured that "such precious art possessions are safe in the hands of the German Government." Quotations of this kind show that it is useless to expect any recognition of the evil done or any help to prevent further damage from the German authorities, who do not scruple to describe Whitby and Scarborough as being fortified towns, and who would complacently describe the destruction of St. Paul's as a regrettable "military necessity." We do not think there is much in the suggestion made that neutralised zones should be created round historic buildings, as the policy which leads to the concentration of artillery fire on a cathedral would not regard the most clearly defined neutral zone as a greater safeguard. The real remedy appears to us to be to put it beyond the power of Germany to place the peace of the world again in jeopardy, and to trust that the new boundaries of the European States which are marked out after the war may correspond with the aspirations of the people who inhabit them.

The Wastage of War.

THE appalling wastage of human life caused by warfare under modern conditions must, we suppose, be accepted as the inevitable consequence of conflicts between nations in arms with all the destructive resources of science at their disposal; and when we read the ever-lengthening lists of young and promising architects who have given their lives for their country and for the cause of freedom; when we reflect that these lists may be equalled or even exceeded in other branches of art or science or scholarship, not only in this country, but over nearly the whole of Europe, we begin to realise that this wastage must eventually include a large proportion of those whose lives, by reason of their special gifts or attainments, are of the utmost value to the State and to the cause of civilisation and the uplift of humanity. In the nature of things such men are rare, and by their own nature they are the first to go. No one would wish to deny them the right to die for their country, but we cannot help thinking that there must be many thoughtful people who are asking themselves whether the set-back to future progress caused by the loss of so many of the natural leaders of the future is also inevitable. No doubt we are fighting that a future for any sort of progress may be possible, and it may be that the sacrifice of our best is necessary to this end. Yet, on the other hand, it may be that a perfectly organised State would take the view that, however sweet and proper it may be to die for one's country, there are exceptional cases in which it is the higher, if more difficult, duty to live for it, and would so arrange that upon a certain number of those of special value in every branch of human attainment would be laid the obligation of this more difficult duty.

Housing.

THE North-Western Conference of Local Authorities, which met at Liverpool last month under the auspices of the National Housing and Town-Planning Council, were seriously concerned with the shortage of housing accommodation, which is likely to be acutely felt after the war if action is not taken now. It will be remembered that a sum of £4,000,000 was put on one side for the purpose of meeting housing loans in order to relieve distress in the building trades, which it was felt might suffer more from the war than many others. There was an idea that this sum would be spent within a year, but this has not proved to be the case. A rise of 1 per cent. in the rate of interest means that a cottage would cost a shilling a week more in rent. But Government money could be lent at a percentage of three shillings per cent. dearer than before the war, which only means an increased rent of twopence or threepence on a cottage. For the present, housing is at a standstill, though the Government have promised to deal with the matter should unemployment arise. Every year, it is said, we need 80,000 houses, but for several years we may look forward to a shortage of 40,000 a year, which would produce a very serious crisis, such as has not been known for twenty years. It was further pointed out that we have to rely mainly on municipal enterprise, one of the many consequences of the beneficent land legislation advocated with so much fervour, which was to make the country a land of promise. The broad fact remains that land hunger, such as is known in Ireland, does not exist in this country, and for a time the disposition to invest in land and buildings has suffered a severe set back.

A Small Contract.

UNDER the heading of "Enterprise in New South Wales," a contemporary refers to what we should designate as "Enterprise of a Contractor." Messrs. Norton Griffiths & Co. have entered into a contract with the New South Wales Government to build works of the value of £10,000,000 sterling within five years, the work to be carried out according to plans and specifications drawn up by the Department of Works. The Government pays 5 per cent. on the cost of construction, providing all materials and paying for land. The works comprise ten railways, including a new Sydney scheme, and the completion of what is known as the North Shore line, two water conservation schemes and harbour works, and the enlargement of the main canal of the Murrambidge irrigation scheme. Not satisfied with this little contract, the firm undertakes to underwrite and assist the Government to raise certain loans periodically, while the Minister of Works retains the right to cancel the agreement as far as it relates to any work found by the arbitrators and an umpire to be extravagantly performed. Like d'Artagnan in the "Three Musketeers," we trust that the firm in question can say they have many of these little affairs on their hands just now!

The Henry Saxon Snell Prize.

THE Henry Saxon Snell Prize was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is awarded every three years by the Royal Sanitary Institute. The prize is 50 guineas and a medal. The subject set for 1915 is an essay on "Suggestions for Improvements on the Sanitary Arrangements and Appliances Suitable on Board Ship for (*a*) Passengers and Crew and (*b*) Cattle and Other Live Stock." Attention is directed to seven points:—(1) Ventilation; (2) heating and cooling; (3) sanitary contrivances, urinals, etc.; (4) water storage; (5) sleeping quarters; (6) store and food rooms; and (7) the ventilation and regulation of temperature in the space devoted to cattle and other livestock, and the construction of stalls, removal of dung, etc. The essays are to consist of not more than 5000 words, with general drawings to a scale of $\frac{1}{10}$ in. to a foot, and detail drawings to $\frac{1}{2}$-in. scale or full size. Two competitors of different crafts may combine together to send in an essay, and the drawings must be delivered at the Royal Sanitary Institute, 90, Buckingham Palace-road, S.W., on or before November 1. The subject is an excellent one, as those who have ever had the fate to travel in a cargo boat know, sometimes to their cost! Though rather outside the province of an architect, architecture and building cover a very wide field, and contain men who are specially interested in some of the subjects which lie on the boundary or outside the boundary of their calling, and some of them may be tempted to make an excursion into new fields and pastures.

BRADFORD STREET PLANNING COMPETITION.

THE replanning of the central portion of Bradford is the most sweeping project of the kind which has been brought into the realm of practical politics since the remodelling of Hull was undertaken some fifteen years ago. It is therefore the first application in our provincial cities on a large scale of the theory of town planning which in its academic aspect has been so much to the fore of late years. The competition is therefore of almost epoch-making importance.

We announced the result a few weeks ago. Fifty-four sets of drawings were submitted, and were assessed by Mr. Reginald Blomfield, R.A. His award was as follows :—

(1) £500, Messrs. Gibson, Skipwith, & Gordon, of London.

(2) £300, Messrs. Patrick Abercrombie & Lionel B. Budden, of the Liverpool School of Architecture.

(3) £200, Mr. Reginald Dann, of Crawley, Sussex, and Mr. J. H. Horniman, of Hastings.

Bradford is an unfortunate instance of a city which has developed from two centres, Town Hall-square and Forster-square. The former would not be regarded as much more than an enlarged street were it not the municipal centre. Forster-square is newer and more spacious. It is dominated by the sturdy old parish church, high on a steep bank, and has greater possibilities of interest, but it has never quite caught up to Town Hall-square as a business centre, and its buildings are more disorderly. Each square has its claim to pre-eminence reinforced by a railway terminus, but neither has yet asserted itself conclusively against the other, so that there are two fairly intelligible systems of radial thoroughfares which, between their centres, have become inextricably mixed together, and form a labyrinth of tortuous warehouse streets. This area is the subject of the present competition. The *raison d'être* of the whole project is the intended continuation of the Midland line, which now terminates in Forster-square, right across the city, making havoc with the present plan ; the Corporation have wisely seized the opportunity of replanning the area most vitally affected by the proposal.

Away to the east is the present shopping area, a strange medley of narrow steep streets having no coherent relation either to the two squares or one to another, and bearing names, such as Kirkgate and Ivegate, which fix the blame of their present confusion some centuries back. The new scheme will provide some broad shopping streets, and will supersede the old warehouses by modern ones more suited to present-day commercial requirements.

The whole project would be a failure unless it gave the city an unmistakable centre, a focus into which its irregular thoroughfares might be drawn, and unless it imparted scale, order, and climax to its present characterless plan.

This is done in the case of the premiated designs. They are surprisingly alike in general outline. The site to be treated is triangular, with Leeds-road as its base on the south, the Midland Station in Forster-square at its apex, Market-street and the new railway forming its sides. The keynote of all the schemes is a main avenue driven right through from the apex to the centre of the base, at Peel-place. The two stations are thus connected, and a new feature, distinct enough to supersede either of the two squares as the civic centre, is provided. About twenty of the fifty-four designs adopt this principle, clearly the right one.

The first premiated design is whole-heartedly upon this *motif*. It is not by any means the most arresting in the exhibition either by reason of its draughtsmanship or of any striking qualities of its design. Its simplicity and undoubted soundness from the standpoint of civic economy have won it the first place. It shows a thoroughly commonsense treatment of the area, without rising to the height of inspiration. It is not so glorious that it will make Bradford a noteworthy city, but as a plan it has carried the day against the magnificence of the second design, its only serious rival.

The central street is the backbone of the plan. The authors attempt no great effect at its northern end. If, indeed, they are content to leave the Midland Station as it is, any great striving at this point would be valueless. At the southern end they convert Peel-place into a broad crescent which masks the deflection of Leeds-road and receives the new Bank-street and the two sections of the present Hall Ings. Everything else is secondary, but is well worked out. The direction that Swan-arcade should remain has fixed the Market-street end of Charles-street, and it is the authors' treatment of that street which gives its coherence to the inner portions of the area. The streets entering the area from outside are well picked up, but the authors have rigidly confined themselves to the actual specified site, although immediately beyond, especially at Peel-place, are angular and awkward sites which cry out for treatment. The presence of the railway is, of course, a great handicap to an ideal scheme, but the winners have successfully covered it by their warehouse blocks, avoiding the mistake of many competitors who have gone out of their way to display it and even to make it an opportunity for some *pièce de résistance*.

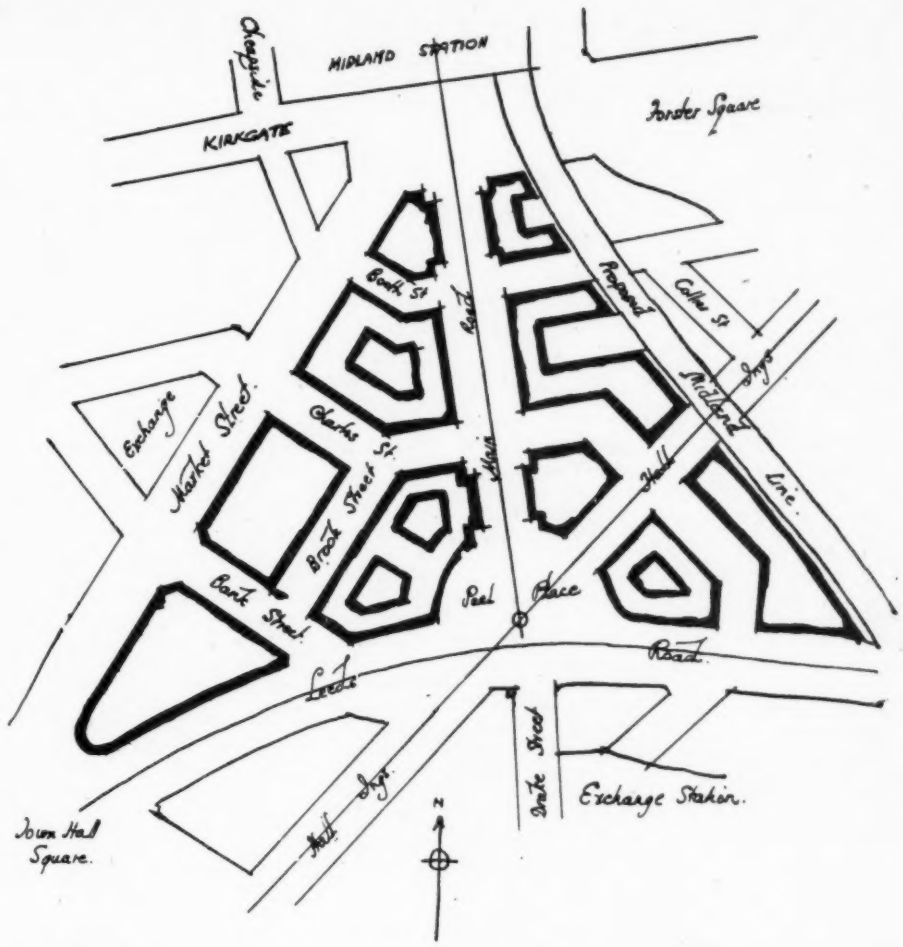
It must be confessed that the simplicity and ease of this plan have not been obtained without considerable sacrifice of architectural principle. Owing to the limitations imposed by the site æsthetic and practical considerations have often been in conflict, and whenever this has happened the æsthetic has gone by the board. The scheme, viewed from the highest standpoint, is therefore hesitating and timid, and lacks the splendid certainty of handling of the second design. We would instance the irregular angles at which the streets enter Peel-place, the architectural and geometrical centres of which do not coincide. The irregular segments left between the streets have made it necessary for the latter to be bridged over in order to give unity to the crescent, and this at once robs the central avenue of any grandeur of effect which might survive the objectless way in which its axis strikes the Midland Station. All this represents the price which had to be paid for the straightforwardness of the street plan—the defects of the very excellent qualities which have brought success to the authors.

The elevations are in a freely treated classic manner. They continue the perennial struggle between conventional architectural features and the demands of adequate lighting with an issue less successful than a franker treatment might realise.

The second design is a brilliant example of scientific town planning. A fine idea, conceived truly in the grand manner, is carried through with the verve and conviction of enthusiasm. Judged merely as a street plan it loses by comparison with the winner. Its chief defect economically is the wholly unnecessary road which runs beside the railway, and this has probably cost it the first place. The warehouse blocks do not need the frontage that it affords, and as to its usefulness, Well-street, just outside the area, is nearly parallel to it and provides all the connection that is required between Forster-square and Leeds-road. Apart from this the authors have solved all the practical difficulties of the site, and at the same time have produced an architectural scheme so finely treated that it would give Bradford a centre unequalled in any provincial city.

The authors have designed a new façade to the Midland Station, which they opine will be enlarged in consequence of the increased traffic brought by the new line. Forster-square being cut in two by the new viaduct, they plan a spacious square in front of the station. Their new central street connects this square to Peel-place, where the axes of the central and secondary streets are most dexterously handled. The suggestion for the treatment of the opposite side of the road, especially for the improvement of the miserable approach to Exchange Station, completes a finely modelled circus, in which some awkward architectural problems which arise are cleverly dealt with. The segments of the circle are rhythmically divided, the angles well managed, all very frankly, and without any deviation from strict principle. The design of the façades is admirably adapted to commercial buildings, and has a delightful French flavour. The rectangular lines upon which it is framed admit of large windows without any loss to the breadth of the design, and the method in which the shop fronts are dealt with, following Parisian precedent, is wholly admirable. The scheme is presented by a set of drawings of the most certain and superb draughtsmanship. It must have offered almost compelling temptation to the assessor.

These two schemes, excellent in such diverse ways, find no serious competitor in the exhibition. The third design falls short of the first as a plan and below the second as an



Bradford Street Planning Competition : Third Premiated Design.

By Messrs. R. Dann & J. H. Horniman.

architectural onception. The main, central avenue has given it its place; otherwise the design is not distinguished above several others in the room. The authors have not allowed themselves to be drawn aside by considerations of severe æsthetics. They show one or two bad lapses. The treatment of Peel-place is cursory, and lacks decision in its balance and modelling; the projecting blocks which mar the main avenue are inexplicable; the street which is introduced behind Peel-place on the right in order to balance Brook-street has no justification beyond its appearance on paper, and cuts up the warehouse blocks too much. The authors' suggestion of a tram route down the Central-avenue is very ill considered. It is not demanded by the Bradford tramway system and is contrary to the spirit of the scheme.

While the general level of merit in the competition is very good, especially in the design of the buildings, too many designs show that the main problem has not been regarded seriously enough. Some competitors are obsessed by the striving for a commanding building rather than a commanding street or *place*. Almost half of the designs have no root idea, and some do not show much reason why the area should be replanned at all.

The following are the best of the unsuccessful designs based upon the lines of the accepted plan. Mr. J. H. Sellars, of Manchester, shows a central avenue, but the chief emphasis is placed on Peel-place, where he shows an island block, and into which he draws the axes of Charles-street and Swaine-street, as well as of Hall Ings. This brings about quite a sforzando at this point, but at the expense of the dignity of the main avenue, and the resulting shape of Peel-place is not quite convincing. The Peel statue retires into the seclusion of a niche. The elevations are original and suggestive, and are illustrated by a daring and masterly water-colour drawing. Mr. R. F. Farrar, of Leeds, submits a finely presented scheme worked out on large lines with a circular *place* astride the main avenue. The plan is effective, but the area seems hardly big enough to carry this additional point of emphasis. Messrs. Wright & Wylie, of Glasgow, submit a workmanlike design, marred, however, by the clumsy way in which the streets enter Peel-place.

Among the other designs that of Messrs. Lanchester & Rickards is the most outstanding. They continue the present Cheapside onwards to meet Leeds-road, thus connecting the two stations to some extent, though not so directly as do the winners. The balance of importance is thrown into Peel-place, which is forcefully treated. The design is magnificently shown in an imaginative bird's-eye view by the unmistakable hand of one of the authors. Mr. S. B. Russel's scheme is also a notable one. He makes Market-street his base line. Leeds-road disappears as a recognisable part of the arrangement, while Hall Ings assumes a hardly deserved importance. The central feature of the scheme is a circular exchange backed by a towering square mass of buildings, a perspective of which is finely drawn by Mr. Raffles Davidson.

On very similar lines is Mr. J. B. Fulton's scheme, but it has neither a great building nor a fine street. Mr. Fulton has established a high level of excellence in the design of his colonnaded façades, but he maintains it monotonously throughout, and the design contains nothing big enough to dominate the whole. Mr. T. H. Mawson's scheme, on the other hand, has emphasis enough to be almost explosive. The design is one huge outburst. The outer buildings cluster round a gigantic octagonal structure of twelve stories, which has an exchange on the ground floor in the central well. Striking as the composition may be, it is disappointing as a solution of the present problem. Mr. Thos. A. Moodie submits a simple and effective design leading up to an exchange, but he does little to meet the traffic difficulties.

After steeping oneself in the intricacies of the inexperienced designs and the self-consciousness of many of the better ones, one comes back to the first and finds its simplicity very grateful, and the justice of the assessor's decision is plain. But the impression that remains with one is of the glow of the second.

THE DEVELOPMENT OF LONDON.

IN his lecture to Belgian architects at University College on the 14th ult., Mr. W. R. Davidge traced the growth of the capital from the early Roman citadel through the successive stages shown on the map reproduced herewith. On this are shown: The walled city; the liberties, these practically coinciding with central Elizabethan London apart from the fringe of houses along the Strand and river; the London of 1715, 1815, 1865, and the immense outer area of the present day. Mr. Davidge pointed out the ever-increasing rate of the tremendous growth of comparatively recent times, and emphasised the need of far-seeing and ambitious town-planning to cope with this expansion, and also gradually to remedy the mistakes and meannesses of the past half-century.

Londoners of 150 years ago were far more progressive than to-day, laying out such fine thoroughfares as the Euston-road, then well beyond the limits of their built-up area, but forming to-day one of our best central thoroughfares. Mr. Davidge also pointed out the necessity of safeguarding the public interests, showing as a case in point how the northern embankment through the city formed at Wren's suggestion after the Great Fire, was at first very gradually encroached upon and eventually entirely appropriated by private owners.

On the other hand, however, we can take courage, when preparing the many rebuilding schemes which will shortly be required, from the fact that in the case of London many of the proposals advocated by the more prophetic reformers of the past, while unheeded in their own day, have since been carried out at far greater cost by following generations. The plans prepared by John Gwynn, architect, in 1766 are of great interest in this connection.

A large number of interesting slides were shown, among them being the maps reproduced herewith, which were prepared by the lecturer for the collection of records now being formed by the London Society, to the executive of which thanks are due for the use of diagrams.

ARTERIAL ROADS IN GREATER LONDON:

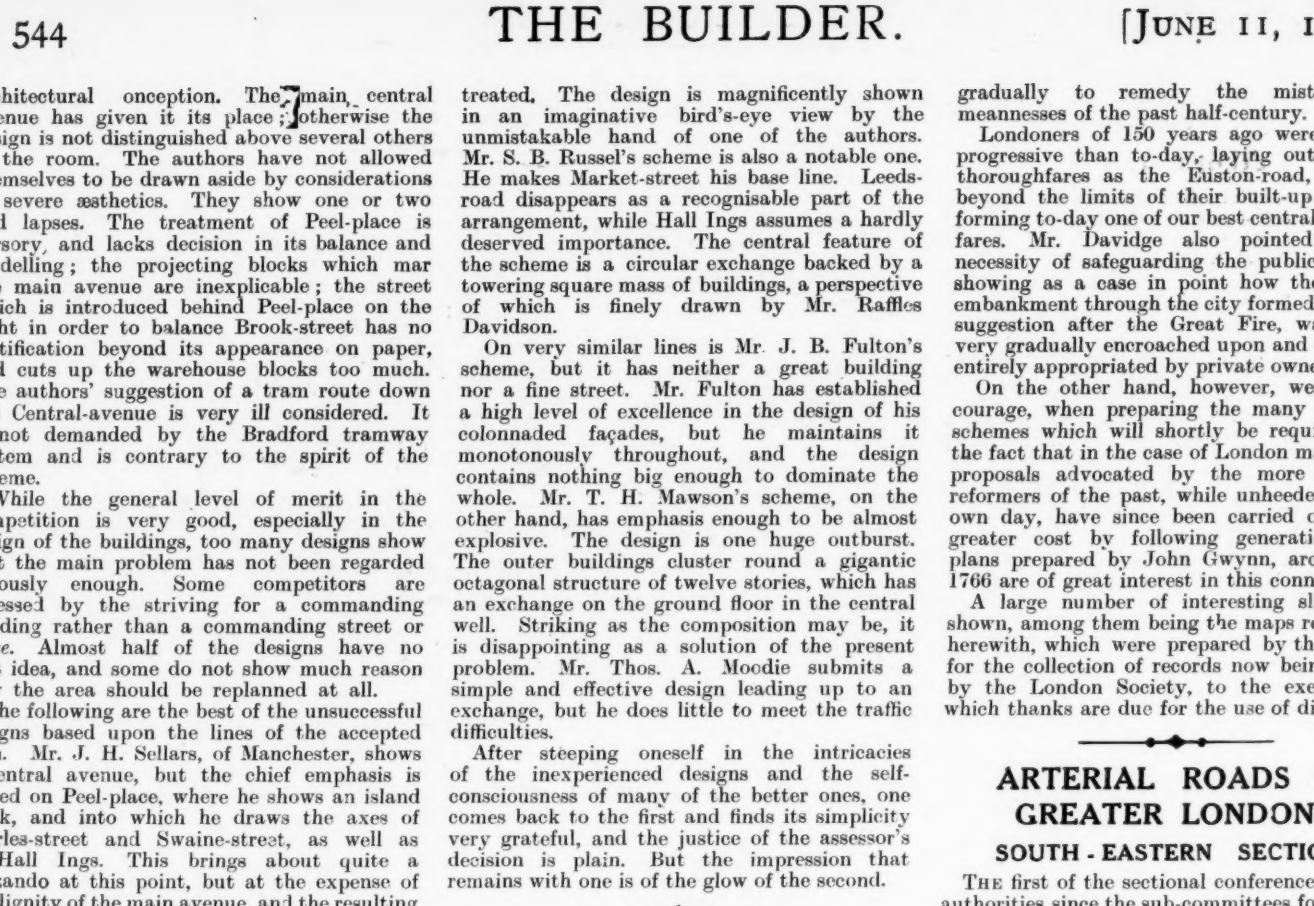
SOUTH-EASTERN SECTION.

THE first of the sectional conferences of local authorities since the sub-committees formulated their schemes was held at the Local Government Board on May 19. This was the south-eastern section, with Mr. G. H. Hume, L.C.C., in the chair.

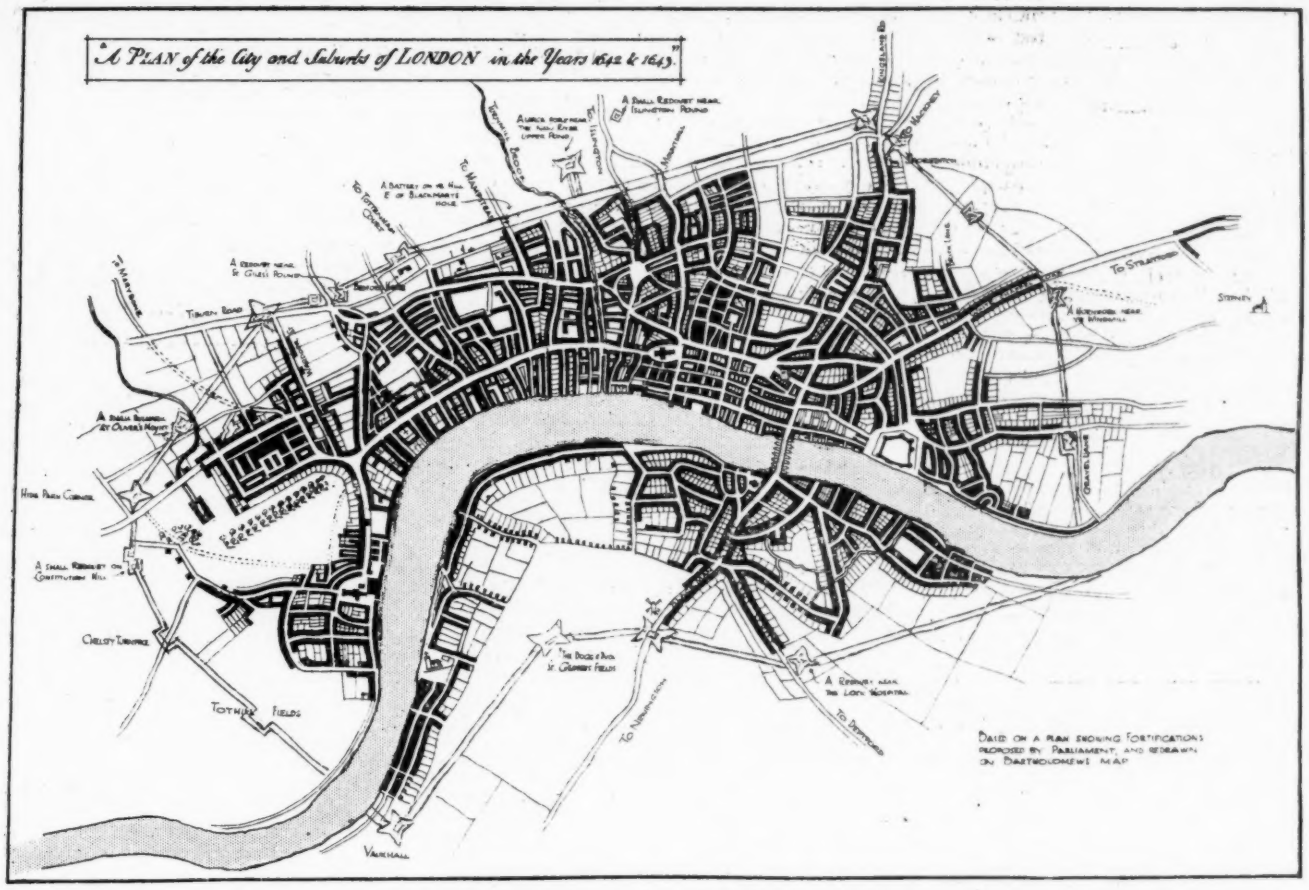
The Sub-Committee submitted the report of the Investigation Committee upon the routes which seemed to it preferable for the South Circular Road, the Bromley and Eltham by-passes, and the proposed new road from the Old Kent-road to Catford, which was accepted.

The principal features of the Report consist in certain recommendations as to various alternative routes proposed. The first is that the Coburg-road route from the Old Kent-road should be adopted in preference to the Trafalgar-road route, as it would be cheaper and join the Old Kent-road further west.

The Farnaby-road route for the Bromley by-pass was condemned, and the route by Queen Anne-avenue and Valley-road into



London in the Year 1560.


"A PLAN of the City and Suburbs of LONDON in the Years 1642 & 1643."
TOTHILL FIELDS
VAUXHALL
To Deptford
To Greenwich
To Stratford
To Hampstead
To Marylebone
Tyburn Road
Chelsey Causeway
Hyde Park Corner
Drawn on a plan showing Fortifications proposed by Parliament, and redrawn on Bartholomew's map

"The Development of London." (*See page* 544.)

Shortlands-road and Ravensbourne-avenue approved.

A proposal for a longer by-pass to avoid Sidcup as well as Eltham, which was made by Mr. Staley, of the Road Board, was considered worthy of further consideration, but being a new scheme no definite opinion could be given.

Upon the route originally proposed opinions differed, but the majority favoured that south of the railway after leaving Eltham Station.

The South Circular Road is considered urgently necessary to connect Woolwich and Essex with the south and west of London.

The Committee are "more than ever convinced of the necessity for these proposed roads, and consider that wherever land is at present available along any of the lines proposed early action should be taken to secure it.

A resolution recommending that 25-in. plans of the routes approved should be prepared and signed by the Chairman for submission to the conference, and afterwards kept at the Local Government Board as a record, was agreed.

Plan showing London at Various Dates. (*See page* 544.)

Also that enlarged scale details should be added from time to time, and signed by the Chairman.

The Sub-Committee was reappointed with a view to considering the best means of carrying out the approved routes and to keep in touch with local authorities, and with power to appoint a Special Committee to prepare preliminary estimates as soon as possible. This was done so that in case of unemployment following the war everything might be ready.

On the motion that powers should be given to the London County Council and the council of any borough or urban or rural district to prescribe building lines to existing roads or new roads recommended by the conference, Mr. Randolph Glen (London Society) pointed out the risk of conferring such powers on district councils, and finally it was agreed to confine the recommendation to county councils only.

Mr. Glen then moved an amendment that such powers should only relate to roads recommended by the conference, but this was defeated.

As landowners, of course, the county councils will, under the Road Board Act, have power to define the building lines and impose what restrictions they like, but otherwise they can hardly expect to obtain more power than the London County Council itself now has—namely, to fix the building lines in existing roads in relation to existing frontages.

NORTHERN SECTION.

The Northern Sectional Conference was held on May 28 at the same place, Mr. Alderman W. Regester in the chair.

The report of the Sub-Committee was received and discussed. It included the three roads which were considered to be urgent and necessary, viz., the New Cambridge-road, a connection from City-road to Hackney-road, the North Circular-road, and also a road considered to be very desirable, viz., the connection from Essex-road to Lea Bridge-road.

The original route proposed for the North Circular-road has been altered, and now runs as follows:—Commencing at Edgware-road, it follows the River Brent, and will pass under the viaduct of the proposed extension of Edgware Electric Railway. It then crosses the Brent, and runs along its west side to Bridge-lane. Thence to Finchley-road the line recommended lies chiefly in the Finchley Urban District, which has decided not to incorporate this section of the road in its town-planning scheme, as it does not fit in with the owner's idea of development. The Committee hopes this decision will be reconsidered. The route continues along Finchley-road and Ballard's-lane, where a new length is required to connect to Wood House-road. It crosses the Great Northern Railway close to Southgate Station, where another new length is required to connect Friern Barnet-road to the Bowls-road. From Green Lanes the Edmonton District Council has secured a more northerly route, *viâ* Silver-street to Angel-road Station. Part of this is now being widened to 60 ft., and the stream will be covered with a culvert. The new bridge over the Lea will facilitate the improvement of the route to Chingford, which is urgently required.

A discussion arose as to the new Cambridge-road and its connection at the south end with Green Lanes. Finally the Belmont-road route was accepted.

For the Essex-road and Lea Bridge-road connection the Shacklewell-lane and London-road route was preferred.

An important question arose as to future procedure. The South-Eastern Conference decided in favour of the preparation of estimates, etc., by a Special Committee, but inasmuch as such a Committee has no spending powers and that there must be uniformity of action in each section, this conference decided that the Local Government Board should be urged to undertake this duty assisted by the local authorities.

There was considerable difference of opinion on the recommendation as to prescribing building lines.

Mr. Fitzroy Doll pointed out that the London County Council already had powers under the Building Act, sect. 23.

Mr. W. E. Riley distinguished between a building line and a line of building, and stated that in 1905 the London County Council applied for power to fix new lines irrespective of present frontages, but after much opposition the claim had to be dropped.

Mr. Lovegrove objected to giving county councils powers over roads towards the maintenance of which they did not contribute.

The Chairman pointed out that if district councils had this power and used it differently there would be great confusion.

Colonel Hellard showed that to secure what was wanted the powers should be applicable to all main roads and not only to those dealt with by the Conferences, and instanced the Hertford-road, where at every village the width was contracted and required adjustment.

Mr. Pepler (Local Government Board) pointed out that the Town Planning Act already gives powers as to new roads.

It was decided to recommend that powers should be given to County Councils after consultation with the local authorities to prescribe building lines to existing roads towards the maintenance of which they contribute or to any other roads affected by the recommendations of the Conference.

NORTH-WESTERN SECTION.

The North-Western Sectional Conference was held on June 4, Mr. Alderman W. Regester in the chair.

The Report of the sub-committee classified the various proposals as follows:—As necessary roads—The Brentford by-pass (already provided for), the north circular road and the western avenue. As very desirable roads—the Sudbury extension and Harrow-road improvements, the road from Pinner to Uxbridge, and the Watford by-pass. The Report dealt with the first four of these, which were considered most important.

The other suggestions before the committee were:—The Rickmansworth by-pass, the Stanmore improvement from the Oxford-road to the Colchester-road, from Chertsey to Barnet, the north and south line through Greenford, and also through West End and Yeading, from Northolt to Pinner, and Pinner to South Harrow. Consideration of these suggestions was deferred.

The route recommended for the north circular road in this section runs from the River Brent to the Harrow-road, and past Stonebridge Park Station and under the London and North-Western Railway, then across canal to the Lodge at Twyford Abbey, afterwards passing under the District Railway by the existing bridge at Park Royal Station, thence into Hanger-lane, which it will follow to the south over Ealing Common, and by Gunnersbury-lane to its junction with Chiswick High-road, where the Brentford by-pass commences. The connection at Edgware-road end was referred back for reconsideration owing to a difficulty about getting the land for the route proposed.

Mr. Claude Robson, the Engineer to Willesden Council stated that, although his Council would support these proposals administratively, he was certain that they would not contribute financially.

For the Sudbury extension the Wembley Urban District Council suggests a new road on west side of District Railway to join Hanger-lane west of Alperton. It would begin at the corner by Sudbury Park Farm along an existing line of road as far as the District Railway, where a new bridge would be required, and then follow the general line of Green-lane to join north end of Hanger-lane. This was approved.

The western avenue was approved as follows:—From the Oxford-road about a mile beyond Uxbridge it should lead in an easterly direction over the Colne, the Grand Junction Canal, the Shire Ditch, the Great Western Railway and Fray's River to a saddle in the ridge at the south end of Harefield-place, continuing past Northolt and Greenford to Perivale, thence across Hanger-lane. South of the Great Western Railway and Willesden-lane, then over the Great Western Railway and the North and South-Western Junction Railway, across Old Oak Common-lane and Wood-lane and under the West London Railway to Silchester-road and Blenheim-crescent. Part of this route near Acton is now partially blocked by building developments, but in view of the better facilities for crossing the railways and the easier grades it is considered wise to adhere to the original line. Mr. W. E. Riley referred to the efforts of the London County Council towards a continuation of the Euston-road westward as far as the county boundary with the object of joining up with the western avenue through Middlesex County.

A discussion took place as to the suggestion that the existing road might be made use of through Greenford and Perivale. It would be longer and would require a good deal of improvement, as at present it is very crooked, especially at West End and Greenford. On a proposal by Mr. Willis (Chiswick) to refer the matter back, it was decided to adopt the proposed new route. The connection at the eastern end with Marylebone-road would be by way of Westbourne-grove and probably Cornwall-road.

The same resolutions relating to reappointment of sub-committee, the recommendation to the Local Government Board as to estimates, and the 25-in. plans and Report were passed as at other Sectional Conferences, but the resolution as to the proposed new powers to prescribe buildings was limited to existing main roads.

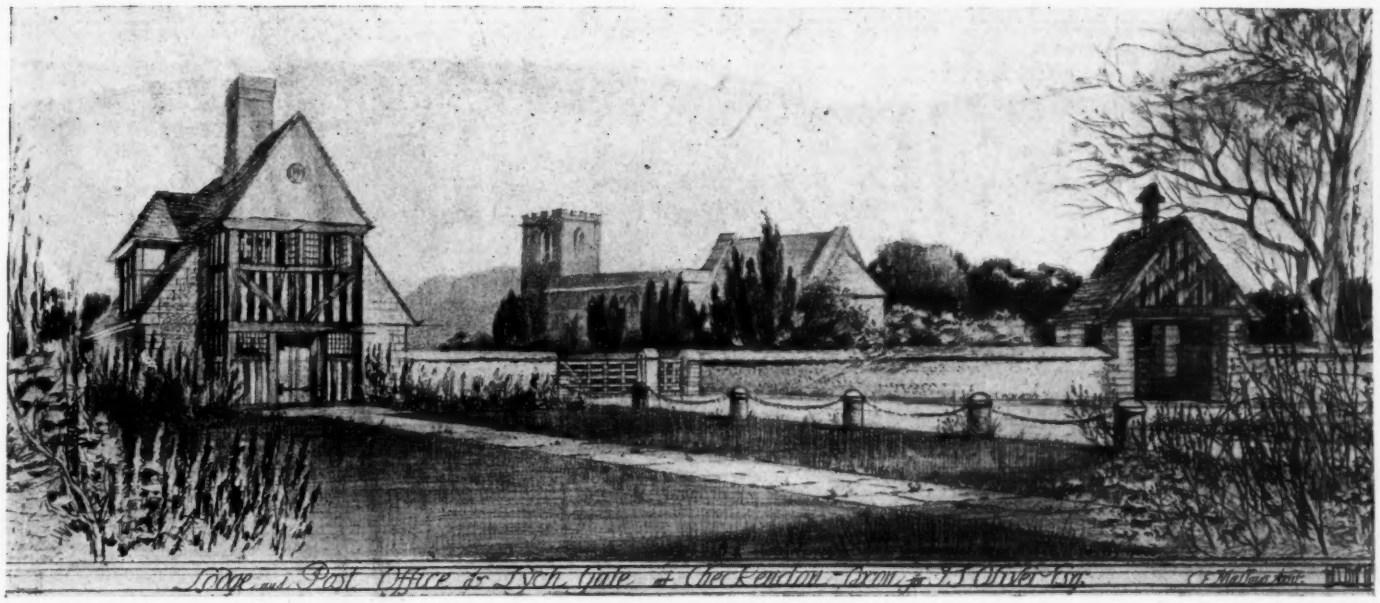
OBITUARY.

Mr. C. E. Mallows.

In our last issue (p. 528, *ante*) we announced with great regret the death, suddenly, of heart failure, on June 2, of Mr. Charles Edward Mallows, of Biddenham, Bedford, and of No. 28, Conduit-street, Hanover-square, London, W. Mr. Mallows was Pugin Student, 1889, and he was elected a Fellow of the Royal Institute of British Architects in December, 1900, and served as Member of Council, 1904-5, 1906-8, and 1909-10, and of the Literature Standing Committee, 1904-6. Of his architectural drawings we have published in our "Cathedrals of England and Wales," and "Abbeys of Great Britain" series those of Gloucester (December 5, 1891), Llandaff (May 7, 1892), Southwell (July 2, 1892) Cathedrals, and Netley (April 6, 1895), Romsey (October 5, 1895, with plan), and Kirkstall (January 4, 1896, with plan based upon one made by Mr. F. W. Bedford) Abbeys; also the Cloisters, Gloucester Cathedral (October 19, 1889); the tower and spire, Holy Trinity, Coventry, when on tour as Pugin Student (April 12, 1890); the flamboyant gate, Albi Cathedral, S. Cécile, France (January 26, 1895), Notre Dame, Paris, showing the towers restored after Viollet-le-Duc (March 16, 1889), the Belfrey, Calais (November 14, 1896); and the private chapel, "Battenhall Mount," Worcester, Mr. R. A. Briggs, architect (May 2, 1896, two views of interior). He made many pencil-drawings for Miss G. Jekyll and Mr. L. Weaver's "Gardens for Small Country Houses."

Mr. Mallows was the architect of a boat-club house with entrance-lodge to a private house (November 12, 1892*); a house on the Severn, near Upton, for Mr. James Seaforth (October 13, 1888*), "a London street front" (September 8, 1888*), and "additions to an old house" (April 25, 1891*); rood screen, Cranfield Church, and house with the garden, at Biddenham; house and the garden near Sherborne, Dorset; "Tirley Garth," and the garden, Tarporley, Cheshire (November 28, 1908, and May 7, 1915*); a design for the restoration of the moat bridge and gatehouse of the west front, Hampton Court Palace; oaken footbridge, Eaton Hall (July 23, 1910*); labourers' cottages, Brickenden, Herts, for Mrs. Kingsley (July 9, 1910*); houses, Gidea Park Garden Suburb, Romford; cottages, Crowcombe, Somerset; alterations and improvements, with new front and walled-in pond-garden, Canons Park, Edgware, for Mr. A. Du Cros, M.P.; houses at Abingdon, and Craig-y-parc, Pentwith, near Cardiff; and a scheme for laying-out South London (Royal Academy, 1913). Messrs. Mallows & Grocock, of Bedford and London, were the architects of Stapleford Park, Leics., the Council school, Barnby-lane, Newark, for 600 children; house at Pembury, Tunbridge Wells, and the Lodge, Pembury; work at Bedford Grammar School; "King's Corner," Biddenham; Science and Art Schools, Newark; St. Andrew's Church (February 18, 1899*), and All Saints' Schools, Bedford; clock tower and campanile, St. Michael's College, Tenbury; terrace and summerhouses, Dalham Hall, Suffolk, for Sir Robert Affleck, with additions to the garden; "Lord Brooke's room," Warwick Castle, for the Countess of Warwick; and in 1905 they were nominated, with nine others, to compete for the Secondary Schools and Technical Institute, Luton. Mr. Mallows was the architect, with Mr. T. H. Mawson, of garden houses with pergolas at "Courtlands," Goring, and "Walmer Lodge," Walmer; and of a design (October 15, 1910*) for proposed buildings for the Carnegie, Dumfermline, Trust; and, conjointly with Mr. Edward White, of the seaside golfing village at Happisburgh, near

* Illustrated in the *Builder*.



By the Late C. E. Mallows.

Cromer (April 16, 1910*); and, in conjuction with Mr. Speaight, of a scheme for an improvement of St. James's Park and the Horse Guards' Parade (March 6, 1909*).

In collaboration with Mr. F. W. Lacey, F.R.I.B.A., M.Inst.C.E., the Corporation Engineer, for the plan, Mr. Mallows prepared four alternative sets of plans and designs for the proposed municipal buildings, with law courts and town hall, Bournemouth. In our issue of December 9, 1905, we illustrated the accepted designs. Unfortunately for the ratepayers and all concerned, the Corporation, as we stated at the time†, changed their minds and relinquished the scheme in that shape.

Messrs. S. B. Russell, Cooper & Davis, and Mallows won the first premium for their plans and designs (out of thirty-two sent in) for the Hull Town Hall extension scheme (July 11, 1903*); Messrs. S. B. Russell and Mallows won the second premium for their designs for the Camberwell Public Baths and Washhouses, Old Kent-road, out of fifty-one sent in, and for the Deptford Town Hall and Municipal Buildings (November 1, 1902*); and they made a notable design for the Harrogate Municipal Buildings. Messrs. Russell, Mallows & Grocock's competitive designs for the Plumstead Municipal Buildings are illustrated in our number of March 23, 1901. Messrs. Mallows and A. W. S. Cross were one of the nine architects selected to take part in the final competition for the Wesleyan Methodist Hall, Westminster; their designs were published in the *Builder*, July 1, 1905, and they were among the six who were nominated to compete for the St. Pancras Central Public Library, winning the third premium; they also took part in the competition for the Birmingham Art Gallery. Mr. Mallows and Mr. J. C. T. Murray, conjointly, won the second premium with their designs (April 23, 1898*) for the Granard Presbyterian Church, Putney. In April, 1900, Mr. Mallows brought out "The Art and Craft of Garden-Making," illustrated with views by the author and with plans and details illustrative of garden design by Mr. T. H. Mawson; his paper on "The Degree of Independence to be Allowed to the Craftsmen," read to a joint meeting of the Architectural Association Discussion Section and the Junior Art Workers' Guild, is reported in our columns of November 30, 1907; and one by him upon "Church Restoration" in our columns of October 22, 1898; in February last year he read a paper upon Hampton Court Palace to the Leicester and Leicestershire Society of Architects. In 1900 he was, we understand, appointed Diocesan Surveyor for the diocese of Ely; he was one of the seven architects nominated to compete for the Acton Public Offices and Town Hall.

Sir Arthur H. Church, F.R.S.

The death, on May 31, at his residence, "Shelsley," Kew Gardens, is announced of Sir Arthur Herbert Church, K.C.V.O., M.A., D.Sc., F.S.A., in his eighty-first year. Sir Arthur Church, who, in October, 1910, retired after thirty-one years' service as Professor of Chemistry, Royal Academy of Arts, was the youngest son of Mr. J. T. Church, of Bedford-row, W.C., solicitor. He was educated at King's College, London, and Lincoln College, Oxford, whence he proceeded B.A., taking a First Class in the Natural Science School. He was Professor of Chemistry, Cirencester Royal Agricultural College, from 1863 until 1879, when he was appointed Professor of Chemistry Royal Academy; in 1880 he was appointed Lecturer upon Organic Chemistry, Cooper's Hill College. He was President, Mineralogical Society, 1898-1901. Sir Arthur Church discovered turacin, "Churchite"—the only British cerium mineral—and many mineral species. He successfully applied the Baryta process to many of our public buildings, among them being Holyrood Palace Chapel; the Bodleian, Oxford; Chapter House, the Abbey, and the Palace, Westminster; and Greenwich Hospital. He devised means to preserve the colours and to strengthen the decayed plaster of the wall paintings by Cope, Maclise, Ward, and others in the Houses of Parliament, and accomplished the restoration of a painting by Orazio Gentileschi on a ceiling in the Queen's House, Greenwich, eight years ago. Of Professor Church's numerous publications we will mention here only his books upon "Precious Stones," fifth edition, 1905; "English Earthenware," and "English Porcelain," sixth editions, 1911; "Josiah Wedgwood," second edition, 1903; "Guide to Corinium Museum," tenth edition, 1910; and "Chemistry of Paints and Painting," the fourth edition of which we reviewed in our last number (pp. 536 and 538 *ante*.). Sir Arthur Church exhibited in the Royal Academy, and was a member of the Burlington Fine Arts Club; he was created K.C.V.O. in 1909, and was elected F.R.S. in 1888; he made a collection of Japanese metalwork, Italian and Oriental embroideries, precious stones, and English and Oriental pottery.

* Illustrated in the *Builder*.
† See our "Note" of January 18, 1908.

CORRESPONDENCE.

Schedule of Conditions for Building Contract.

SIR,—I have read the letter of your correspondent, "Enquirer," and in answer to the second paragraph of his letter I am of opinion that it is necessary for the architect to agree an extension of time with the contractor at the time of giving the order for the extra work.

As to his second question, the fact of not agreeing at the time of ordering prevents any claim for penalties for non-completion being enforceable, but it must be borne in mind in construing this point whether it is an extra or a variation under the contract, and this is sometimes a very difficult point. I would refer your correspondent to condition L in "Comyn's Digest." There are several cases upon the very point he raises, and if "Enquirer" cares to put himself into commuuication with me I shall be pleased to give him further information. W. WOODBRIDGE BIGGS.

Union Bank-chambers,
61, *Carey-street, Lincoln's Inn, W.C.*

GENERAL NEWS.

Safety of Hospitals and Churches.

A highly interesting announcement was made at the special court of the London Hospital on the 2nd inst. In answer to a question, it was stated that information had been received from the War Office to the effect that an agreement had been come to between the British and German Governments for the protection of specified buildings. Such buildings are to be marked with a black and white square and include museums and churches and hospitals, and, it was understood, infirmaries.—*The Times.*

National Guard Engineers in Hyde Park.

On June 5 a detachment of the Engineers' Unit of the City of London National Guard proceeded to Hyde Park for the purpose of erecting a temporary bridge for use by the Post Office Engineering Volunteers in crossing the sunk fence separating Hyde Park from Kensington Gardens. The materials and plant for the construction of the bridge were transported from the headquarters of the Engineers' Unit by a G.P.O. motor van, and arrived at the park about 12.15 p.m. The van was rapidly unloaded by the engineers, who commenced to assemble the main trestle and framework at 12.30, the bridge being completed by 2.30, ready for traffic. The bridge measured about 24 ft. long from end to end, by 8 ft. wide, and was of strength sufficient to carry with perfect safety a column of infantry marching at the double four abreast without breaking step. Those of our readers who know how severe are the vibratory strains resulting from the rhythmic step of troops, even at the ordinary quick march, will at once realise the substantial nature of the construction demanded in this case. On completion of the structure it was tested by a column of the National Guard Engineers, who were marched across in file and then in fours at the quick march, and finally in fours at the double, the result being that the rigidity and safety of the bridge were amply demonstrated. About 3 p.m. the Post Office Engineering Volunteers arrived on the scene under the command of Commandant Gunton, and marched over the bridge in quick time, afterwards crossing it at the double at the request of Platoon-Commander W. Noble Twelvetrees, under whose direction the work was executed. The bridge was built from working drawings prepared by Sapper F. Douglas Fox, M.Inst.C.E., with some slight modifications suggested by Sapper Professor W. Campbell-Houston and Sapper H. Smith. Sapper W. F. Harvey, M.Inst.C.E., acted as engineer-in-charge, and Sapper H. Smith as foreman of works, all the labour necessary having been provided by professional engineers. After conducting two surveys, one across the Serpentine and the other for an assumed military water supply system, the engineers dismantled the bridge, an operation occupying less than thirty minutes, and loaded up the material into the G.P.O. van for re-delivery to their headquarters.

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ILLUSTRATIONS.

Bradford Street Planning.

THESE illustrations are given in connection with the article on p. 543 on the recent competition for the replanning of the central area of Bradford.

Typical French Shop-Fronts.

THIS illustration is from a well-known French work on architecture, and it affords excellent suggestion in design. We shall give further illustrations of work of a similar character and interest in subsequent issues.

Suggested Rearrangement of London Railways.

THIS map is referred to in the leading article in the Civic Design Section on p. 549, and it was prepared by Mr. H. J. Leaning to accompany a contribution of his on the subject which appeared in a recent issue of the *Journal* of the London Society.

New Council Schools, Middlesbrough.

THESE are the competition drawings for the new Council schools, Middlesbrough, placed first by the assessor, Mr. John W. Simpson, F.R.I.B.A. The drawings are self explanatory. The accommodation provided is for 1,400 scholars, in four departments, junior and senior boys, junior and senior girls; in addition a special subjects' centre is provided for domestic and manual instruction. The total estimated cost of the buildings is £19,800. The design is by Mr. James Forbes, of Middlesbrough.

The assessor reported as follows :—"The author shows two blocks of school buildings, each of two stories, and a third block between them, mostly one story in height, containing the special subjects' centres. Every inch of the site not occupied by buildings is available for playground space and every classroom is of good shape and faces south by east. The arrangements for cross-ventilation are good; the cloakrooms are well placed and disconnected though susceptible of improvement in detailed planning; the entrances and latrines well disposed; the special subjects buildings well planned. The whole design is carefully worked out and shows good knowledge of school requirements. The elevations are simple and appropriate."

MEETINGS.

MONDAY, JUNE 14.

Incorporated Clerks of Works' Association (at Carpenters' Hall, London-wall).—Mr. T. Simpson on "King's Hospital." 8 p.m.

THURSDAY, JUNE 17.

Society of Antiquaries.—Ordinary meeting. 8.30 p.m.

R.I.B.A. PROBLEMS IN DESIGN.

The designs submitted under Subject XX. will be on view in the Gallery of the R.I.B.A. next Monday, Tuesday, and Wednesday, the 14th, 15th, and 16th inst. inclusive, between the hours of 10 a.m. and 8 p.m.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

THE ELECTIONS AND THE POLICY OF THE INSTITUTE.

WE give below the names of the members of the new Council of the Institute. The poll was naturally a smaller one than usual owing to the absence of many men who have responded to patriotic calls.

Seeing that controversial matters are in abeyance we may be right in assuming that the voting has been rather for "men" than "measures," as many people consider should always be the case. We are not sure that we agree with their view, for if men have definite convictions on controversial points it seems natural and logical to vote for those who represent these convictions. This may involve some kind of electioneering, but if circulars are occasionally issued, so long as they represent an appeal on principle, issued to all members and not a party whip sent to a few, we can see no want of dignity in the process. If it is wrong in principle, then party government is entirely to be condemned—a standpoint we are not inclined to adopt.

The question of Registration being in abeyance and the R.I.B.A. committed to a new charter, over the merits of which few architects appear to be very enthusiastic, there would be little controversy except the natural cleavage which always separates the more conservative from the more progressive elements in any body.

The Institute has done much in the last year to meet difficulties caused by the dislocation of work consequent on the war, and will no doubt continue to do all that can be effected in this direction.

The Board of Architectural Education is doing a great service to the profession, which must largely look to education to give architects that better standing with the public which will help their cause more than anything else can do.

The direction in which most progress remains to be made is in the conduct of competitions, for, successful as the Institute has been in its efforts to secure recognition from public bodies, it has not made such progress in securing justice to those who compete.

Names of the New Council.

The fifteenth general meeting (ordinary) of the session was held on Monday, when the Report of the Scrutineers appointed to direct the election of the Council, Standing Committees, etc., for the year of office 1915-16, was received, the following being the result of the voting :—

President.—Mr. Ernest Newton.

Past-Presidents.—Messrs. Reginald Blomfield and Thos. Edward Collcutt.

Vice-Presidents.—Messrs. H. V. Lanchester, Paul Waterhouse, Sir J. J. Burnet, J. A. Gotch.

Honorary Secretary.—Mr. E. Guy Dawber.

Representatives from Allied Societies.—Messrs. Graham C. Awdry (Bristol), R. Burns Dick (Northern), F. B. Dunkerley (Manchester), Chas. Kempson (Leicester), Adam F. Watson (Sheffield), Jno. Watson (Glasgow).

Representative of the A.A.—Mr. H. Austen Hall.

Honorary Auditors.—Messrs. R. Stephen Ayling and Arthur Sheppard.

Members of Council.—Messrs. D. Barclay Niven, Hy. T. Hare, Gerald C. Horsley, Andrew N. Prentice, E. A. Rickards, Professor T. D. Adshead, Percy S. Worthington, W. Curtis Green, W. Gilbee Scott, H. D. Searles-Wood, Alexander N. Paterson, Walter Cave, A. E. Richardson, Arthur Keen, Harry Redfern, H. P. Burke Downing, J. J. Joass and E. E. Vincent Harris.

Associate Members.—Messrs. W. R. Davidge, L. Rome Guthrie, Herbert Sheppard, Horace Cubitt, Herbert A. Welch, Philip G. Webb.

Art Standing Committee.—Fellows: Messrs. E. Guy Dawber, Halsey Ricardo, J. Alfred Gotch, Gerald C. Horsley, H. V. Lanchester, G. Gilbert Scott, Arthur Keen, W. A. Forsyth, Ed. P. Warren, and H. Heathcote Statham. Associates: Messrs. Robert Atkinson, H. S. East, L. Rome Guthrie, Basil Oliver, A. Wyatt Papworth, Philip E. Webb.

Literature Committee.—Fellows: Messrs. Andrew N. Prentice, Paul Waterhouse, A. E. Richardson, Arthur Stratton, C. Harrison Townsend, Arthur T. Bolton, E. A. Rickards, C. S. Spooner, T. Fyfe, G. H. Fellowes Prynne. Associates: Messrs. W. S. Briggs, Herbert Passmore, W. Hy. Ward, Walter L. Spiers, W. G. Davies, and Stanley C. Ramsey.

Practice Standing Committee.—Fellows: Messrs. H. D. Searles-Wood, Max Clarke, D. Barclay Niven, Geo. Hubbard, Matt. Garbutt, A. Saxon Snell, W. H. Atkin-Berry, H. O. Cresswell, Edward Greenop, A. W. S. Cross. Associates: Messrs. Edwin Gunn, J. Douglas Scott, H. W. Cubitt, Herbert Sheppard, Percival M. Fraser, and Hy. A. Saul.

Science Standing Committee.—Fellows: Messrs. Bernard Dicksee, W. E. Vernon Crompton, Frederic R. Farrow, C. Stanley Peach, H. Percy Adams, R. Elsey Smith, R. Stephen Ayling, Alfred Conder, A. O. Collard, Horace Cheston. Associates: Messrs. W. R. Davidge, G. Leonard Elkington, Robt. J. Angel, E. W. M. Wonnacott, Digby L. Solomon, and H. W. Burrows.

The following candidates for membership were then elected :—

As Fellows.

Robert Atkinson, Carshalton
C. L. Gill, Hampstead, N.W.
C. W. Harris, Liverpool
L. Hobson Liverpool
D. B. Hutton, Glasgow
J. J. S. Naylor, London
W. C. Oman, Singapore
F. Peck, Westminster, S.W.
H. Porter, London
H. A. Saul, London

And the following Licentiates, who have passed the Examination qualifying for candidature as Fellows :—

J. A. Allan, Aberdeen
H. Baily, Crouch End, N.
W. E. Carless, Montreal, Canada
S. N. Cooke, Birmingham
J. Stuart, Wakefield
J. A. Swan, Birmingham
T. L. Taylor, Glasgow

As Associates.

L. P. Abercrombie, Liverpool
T. H. Barrow, Camberwell, S.E.
H Basta, London
N. M. M. Bhownagree, London
E. F. Bothwell, Hong Kong, China
D. A. Carmichael, Greenock
W. R. Davison, Morpeth
G. E. Francis, Sydenham, S.E.
T. George, Swindon
B. R. Gribbon, Leeds
T. P. Jenkins, Swansea
H. N. Jepson, Kingston-on-Thames
E. A. L. Martyn, Redruth
E. Meredith, Newbridge-on-Wye
A. H. Owen, Upper Holloway, N.
S. G. Soper, Golder's Green, N.W.
J. O. Thompson, Sheffield
J. A. E. Toone, Melbourne, Australia
H. S. Triscott, Brondesbury, N.W.
C. T. Whiteley, Bradford

BOOKS RECEIVED.

TIMBER. By Wm. Bullock. (London: Sir Isaac Pitman & Sons, Ltd. 1s. 6d. net.)

MATERIALS OF CONSTRUCTION. By Adelbert P. Mills. (London: Chapman & Hall, Ltd. 19s. net; New York: Jno. Wiley & Sons.)

MEMORIALS AND MONUMENTS. By Lawrence Weaver. (London: *Country Life*. 12s. 6d. net.)

HOW TO MAKE AND HOW TO MEND. By an Amateur Mechanic. (London: George Allen & Unwin, Ltd. 2s. 6d. net. New York: The Macmillan Company.)

THE ENGLISH COUNTRYSIDE. By Ernest C. Pulbrook. (London: B. T. Batsford, Ltd. 7s. 6d. net.)

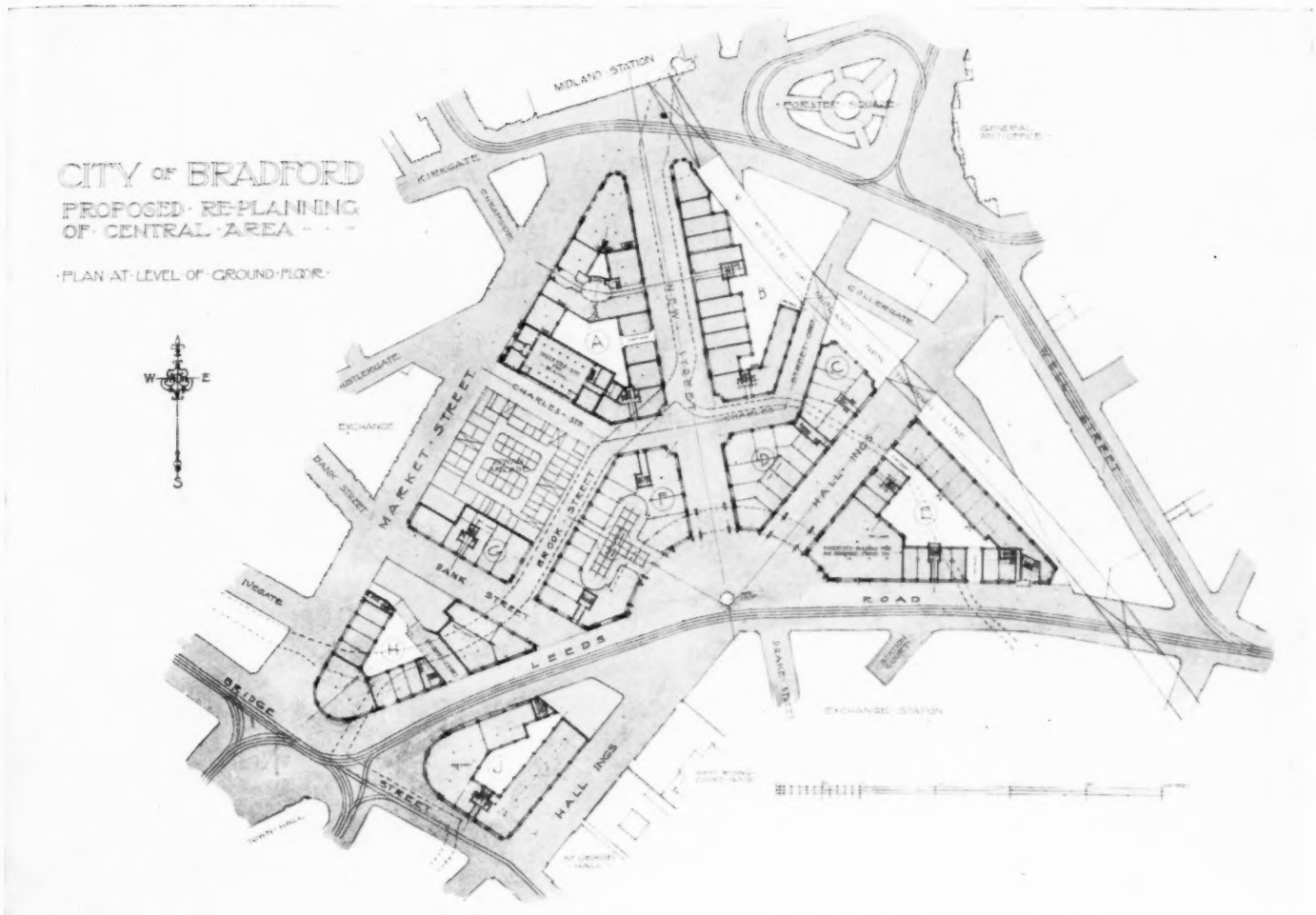
FIFTY YEARS AGO.

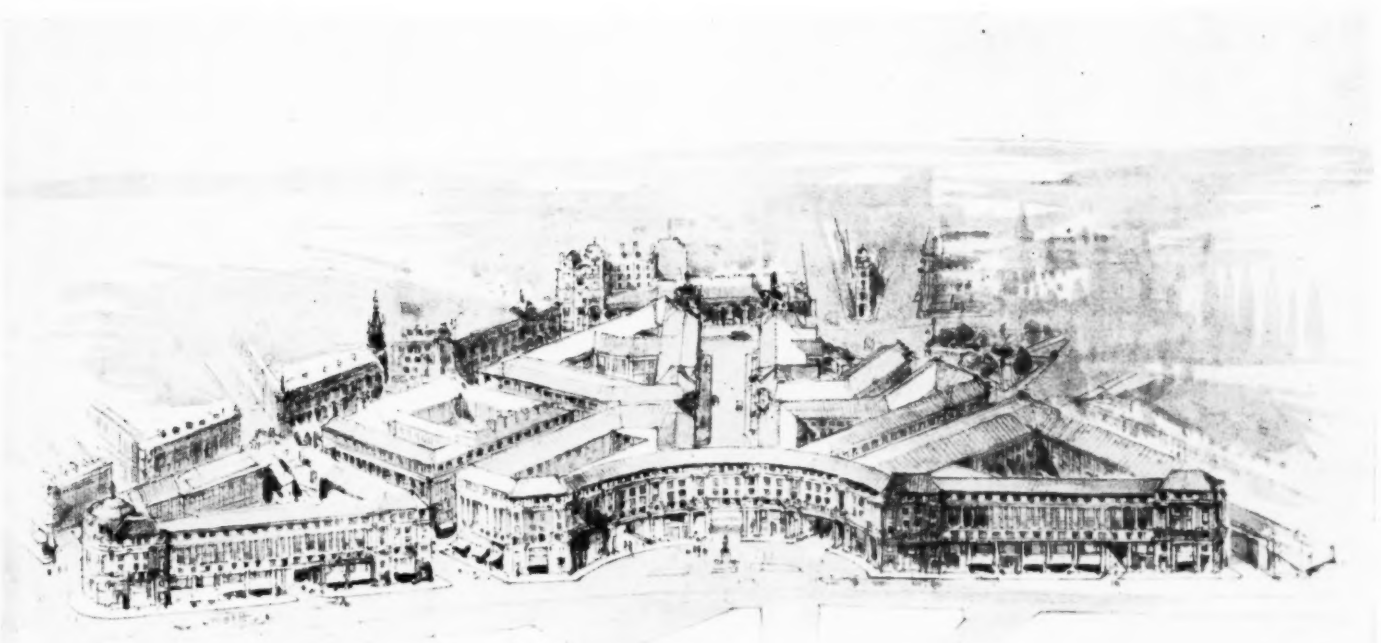
The Architectural Professorship, University College, London.

ON Saturday last, at a session of the Council, Mr. Hayter Lewis was appointed Professor of Architecture in the College, from the close of the present session, on the resignation of Dr. Donaldson, who, retiring by reason of long service, will assume the title of Emeritus Professor.

The testimonials submitted to the Council by Mr. Lewis were of the most remarkable character, and could have left them little alternative. Mr. Lewis succeeds a most accomplished, energetic, and excellent man, a man not merely with a head, but with a heart. When we say that we believe the credit gained for the position will not suffer in Mr. Lewis's hands, we pay him the highest compliment in our power.

[*** We give the above extract from the *Builder* of June 10, 1865.]





REPLANNING OF CENTRAL AREA, BRADFORD: FIRST PREMIATED DESIGN.—By Messrs. J. S. Gibson, Skipwith, & Gordon.

architectural onception. The main central avenue has given it its place; otherwise the design is not distinguished above several others in the room. The authors have not allowed themselves to be drawn aside by considerations of severe æsthetics. They show one or two bad lapses. The treatment of Peel-place is cursory, and lacks decision in its balance and modelling; the projecting blocks which mar the main avenue are inexplicable; the street which is introduced behind Peel-place on the right in order to balance Brook-street has no justification beyond its appearance on paper, and cuts up the warehouse blocks too much. The authors' suggestion of a tram route down the Central-avenue is very ill considered. It is not demanded by the Bradford tramway system and is contrary to the spirit of the scheme.

While the general level of merit in the competition is very good, especially in the design of the buildings, too many designs show that the main problem has not been regarded seriously enough. Some competitors are obsessed by the striving for a commanding building rather than a commanding street or *place*. Almost half of the designs have no root idea, and some do not show much reason why the area should be replanned at all.

The following are the best of the unsuccessful designs based upon the lines of the accepted plan. Mr. J. H. Sellars, of Manchester, shows a central avenue, but the chief emphasis is placed on Peel-place, where he shows an island block, and into which he draws the axes of Charles-street and Swaine-street, as well as of Hall Ings. This brings about quite a sforzando at this point, but at the expense of the dignity of the main avenue, and the resulting shape of Peel-place is not quite convincing. The Peel statue retires into the seclusion of a niche. The elevations are original and suggestive, and are illustrated by a daring and masterly water-colour drawing. Mr. R. F. Farrar, of Leeds, submits a finely presented scheme worked out on large lines with a circular *place* astride the main avenue. The plan is effective, but the area seems hardly big enough to carry this additional point of emphasis. Messrs. Wright & Wylie, of Glasgow, submit a workmanlike design, marred, however, by the clumsy way in which the streets enter Peel-place.

Among the other designs that of Messrs. Lanchester & Rickards is the most outstanding. They continue the present Cheapside onwards to meet Leeds-road, thus connecting the two stations to some extent, though not so directly as do the winners. The balance of importance is thrown into Peel-place, which is forcefully treated. The design is magnificently shown in an imaginative bird's-eye view by the unmistakable hand of one of the authors. Mr. S. B. Russel's scheme is also a notable one. He makes Market-street his base line. Leeds-road disappears as a recognisable part of the arrangement, while Hall Ings assumes a hardly deserved importance. The central feature of the scheme is a circular exchange backed by a towering square mass of buildings, a perspective of which is finely drawn by Mr. Raffles Davidson.

On very similar lines is Mr. J. B. Fulton's scheme, but it has neither a great building nor a fine street. Mr. Fulton has established a high level of excellence in the design of his colonnaded façades, but he maintains it monotonously throughout, and the design contains nothing big enough to dominate the whole. Mr. T. H. Mawson's scheme, on the other hand, has emphasis enough to be almost explosive. The design is one huge outburst. The outer buildings cluster round a gigantic octagonal structure of twelve stories, which has an exchange on the ground floor in the central well. Striking as the composition may be, it is disappointing as a solution of the present problem. Mr. Thos. A. Moodie submits a simple and effective design leading up to an exchange, but he does little to meet the traffic difficulties.

After steeping oneself in the intricacies of the inexperienced designs and the self-consciousness of many of the better ones, one comes back to the first and finds its simplicity very grateful, and the justice of the assessor's decision is plain. But the impression that remains with one is of the glow of the second.

THE DEVELOPMENT OF LONDON.

IN his lecture to Belgian architects at University College on the 14th ult., Mr. W. R. Davidge traced the growth of the capital from the early Roman citadel through the successive stages shown on the map reproduced herewith. On this are shown: The walled city; the liberties, these practically coinciding with central Elizabethan London apart from the fringe of houses along the Strand and river; the London of 1715, 1815, 1865, and the immense outer area of the present day. Mr. Davidge pointed out the ever-increasing rate of the tremendous growth of comparatively recent times, and emphasised the need of far-seeing and ambitious town-planning to cope with this expansion, and also gradually to remedy the mistakes and meannesses of the past half-century.

Londoners of 150 years ago were far more progressive than to-day, laying out such fine thoroughfares as the Euston-road, then well beyond the limits of their built-up area, but forming to-day one of our best central thoroughfares. Mr. Davidge also pointed out the necessity of safeguarding the public interests, showing as a case in point how the northern embankment through the city formed at Wren's suggestion after the Great Fire, was at first very gradually encroached upon and eventually entirely appropriated by private owners.

On the other hand, however, we can take courage, when preparing the many rebuilding schemes which will shortly be required, from the fact that in the case of London many of the proposals advocated by the more prophetic reformers of the past, while unheeded in their own day, have since been carried out at far greater cost by following generations. The plans prepared by John Gwynn, architect, in 1766 are of great interest in this connection.

A large number of interesting slides were shown, among them being the maps reproduced herewith, which were prepared by the lecturer for the collection of records now being formed by the London Society, to the executive of which thanks are due for the use of diagrams.

ARTERIAL ROADS IN GREATER LONDON:

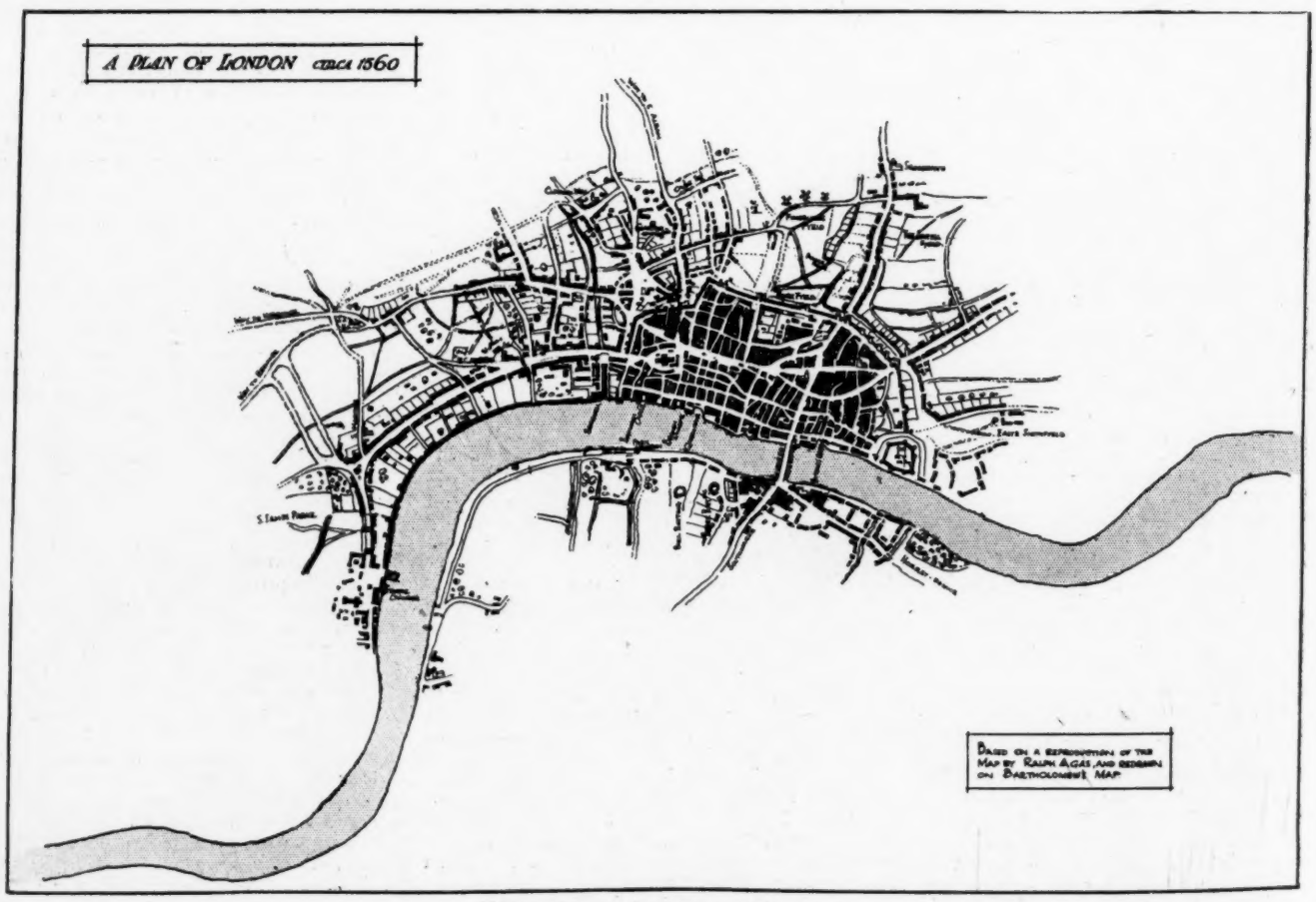
SOUTH-EASTERN SECTION.

THE first of the sectional conferences of local authorities since the sub-committees formulated their schemes was held at the Local Government Board on May 19. This was the south-eastern section, with Mr. G. H. Hume, L.C.C., in the chair.

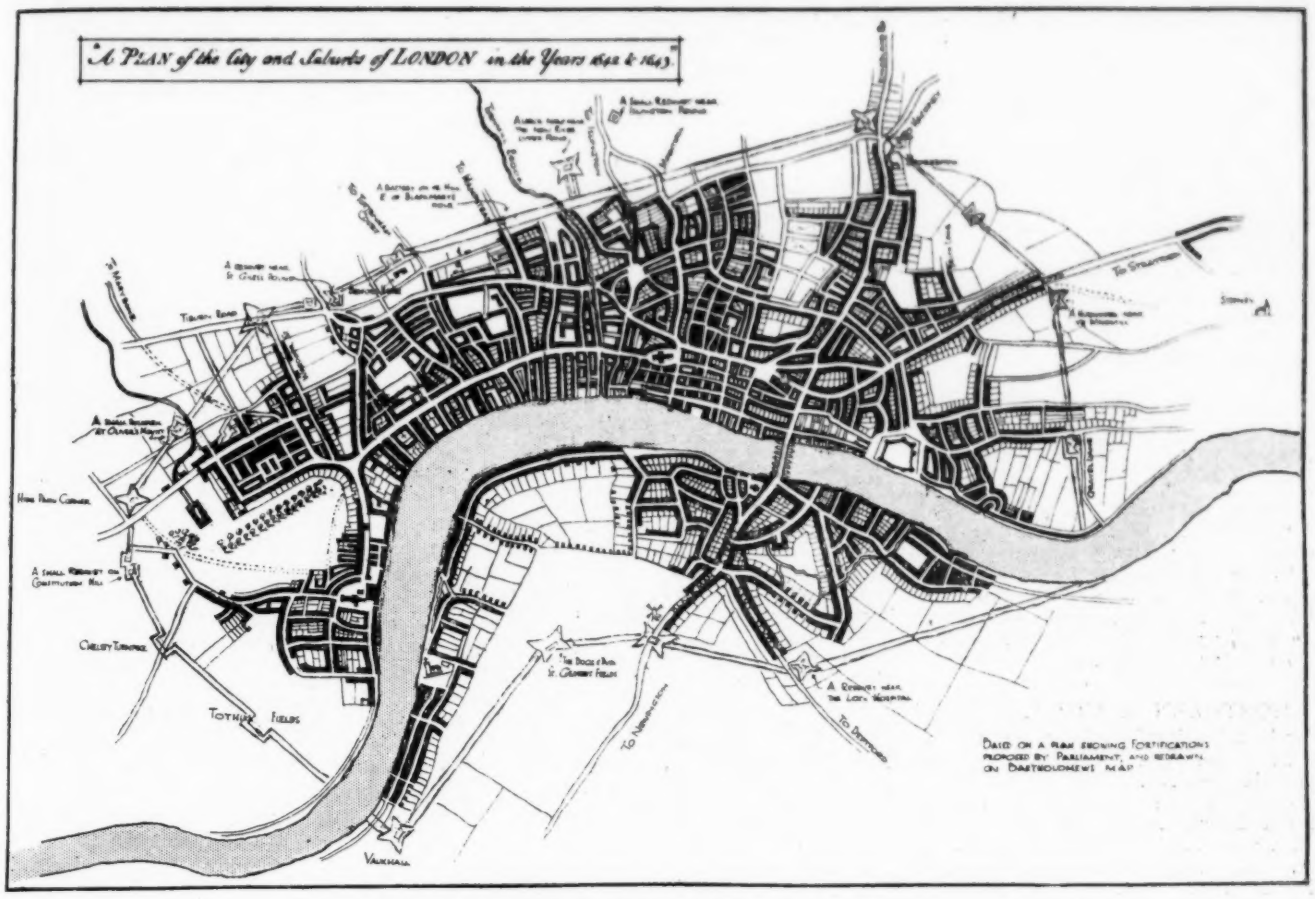
The Sub-Committee submitted the report of the Investigation Committee upon the routes which seemed to it preferable for the South Circular Road, the Bromley and Eltham by-passes, and the proposed new road from the Old Kent-road to Catford, which was accepted.

The principal features of the Report consist in certain recommendations as to various alternative routes proposed. The first is that the Coburg-road route from the Old Kent-road should be adopted in preference to the Trafalgar-road route, as it would be cheaper and join the Old Kent-road further west.

The Farnaby-road route for the Bromley by-pass was condemned, and the route by Queen Anne-avenue and Valley-road into



London in the Year 1560.


A PLAN of the City and Suburbs of LONDON in the Years 1642 & 1643
TOTHILL FIELDS
VAUXHALL
TO DEPTFORD
TO NEWINGTON
TO STRATFORD
TO MARYLEBONE
TO HIGHGATE
TO HAMPSTEAD
TOWER ROAD
CHELSEY CAUSEWAY
DRAWN ON A PLAN SHOWING FORTIFICATIONS PROPOSED BY PARLIAMENT, AND RESEARCH ON BARTHOLOMEW'S MAP

"The Development of London." (*See page* 544.)

Shortlands-road and Ravensbourne-avenue approved.

A proposal for a longer by-pass to avoid Sidcup as well as Eltham, which was made by Mr. Staley, of the Road Board, was considered worthy of further consideration, but being a new scheme no definite opinion could be given.

Upon the route originally proposed opinions differed, but the majority favoured that south of the railway after leaving Eltham Station.

The South Circular Road is considered urgently necessary to connect Woolwich and Essex with the south and west of London.

The Committee are "more than ever convinced of the necessity for these proposed roads, and consider that wherever land is at present available along any of the lines proposed early action should be taken to secure it.

A resolution recommending that 25-in. plans of the routes approved should be prepared and signed by the Chairman for submission to the conference, and afterwards kept at the Local Government Board as a record, was agreed.

Plan showing London at Various Dates. (*See page* 544.)

Also that enlarged scale details should be added from time to time, and signed by the Chairman.

The Sub-Committee was reappointed with a view to considering the best means of carrying out the approved routes and to keep in touch with local authorities, and with power to appoint a Special Committee to prepare preliminary estimates as soon as possible. This was done so that in case of unemployment following the war everything might be ready.

On the motion that powers should be given to the London County Council and the council of any borough or urban or rural district to prescribe building lines to existing roads or new roads recommended by the conference, Mr. Randolph Glen (London Society) pointed out the risk of conferring such powers on district councils, and finally it was agreed to confine the recommendation to county councils only.

Mr. Glen then moved an amendment that such powers should only relate to roads recommended by the conference, but this was defeated.

As landowners, of course, the county councils will, under the Road Board Act, have power to define the building lines and impose what restrictions they like, but otherwise they can hardly expect to obtain more power than the London County Council itself now has—namely, to fix the building lines in existing roads in relation to existing frontages.

NORTHERN SECTION.

The Northern Sectional Conference was held on May 28 at the same place, Mr. Alderman W. Regester in the chair.

The report of the Sub-Committee was received and discussed. It included the three roads which were considered to be urgent and necessary, viz., the New Cambridge-road, a connection from City-road to Hackney-road, the North Circular-road, and also a road considered to be very desirable, viz., the connection from Essex-road to Lea Bridge-road.

The original route proposed for the North Circular-road has been altered, and now runs as follows:—Commencing at Edgware-road, it follows the River Brent, and will pass under the viaduct of the proposed extension of Edgware Electric Railway. It then crosses the Brent, and runs along its west side to Bridge-lane. Thence to Finchley-road the line recommended lies chiefly in the Finchley Urban District, which has decided not to incorporate this section of the road in its town-planning scheme, as it does not fit in with the owner's idea of development. The Committee hopes this decision will be reconsidered. The route continues along Finchley-road and Ballard's-lane, where a new length is required to connect to Wood House-road. It crosses the Great Northern Railway close to Southgate Station, where another new length is required to connect Friern Barnet-road to the Bowls-road. From Green Lanes the Edmonton District Council has secured a more northerly route, *viâ* Silver-street to Angel-road Station. Part of this is now being widened to 60 ft., and the stream will be covered with a culvert. The new bridge over the Lea will facilitate the improvement of the route to Chingford, which is urgently required.

A discussion arose as to the new Cambridge road and its connection at the south end with Green Lanes. Finally the Belmont-road route was accepted.

For the Essex-road and Lea Bridge-road connection the Shacklewell-lane and London-road route was preferred.

An important question arose as to future procedure. The South-Eastern Conference decided in favour of the preparation of estimates, etc., by a Special Committee, but inasmuch as such a Committee has no spending powers and that there must be uniformity of action in each section, this conference decided that the Local Government Board should be urged to undertake this duty assisted by the local authorities.

There was considerable difference of opinion on the recommendation as to prescribing building lines.

Mr. Fitzroy Doll pointed out that the London County Council already had powers under the Building Act, sect. 23.

Mr. W. E. Riley distinguished between a building line and a line of building, and stated that in 1905 the London County Council applied for power to fix new lines irrespective of present frontages, but after much opposition the claim had to be dropped.

Mr. Lovegrove objected to giving county councils powers over roads towards the maintenance of which they did not contribute.

The Chairman pointed out that if district councils had this power and used it differently there would be great confusion.

Colonel Hellard showed that to secure what was wanted the powers should be applicable to all main roads and not only to those dealt with by the Conferences, and instanced the Hertford-road, where at every village the width was contracted and required adjustment.

Mr. Pepler (Local Government Board) pointed out that the Town Planning Act already gives powers as to new roads.

It was decided to recommend that powers should be given to County Councils after consultation with the local authorities to prescribe building lines to existing roads towards the maintenance of which they contribute or to any other roads affected by the recommendations of the Conference.

NORTH-WESTERN SECTION.

The North-Western Sectional Conference was held on June 4, Mr. Alderman W. Regester in the chair.

The Report of the sub-committee classified the various proposals as follows:—As necessary roads—The Brentford by-pass (already provided for), the north circular road and the western avenue. As very desirable roads—the Sudbury extension and Harrow-road improvements, the road from Pinner to Uxbridge, and the Watford by-pass. The Report dealt with the first four of these, which were considered most important.

The other suggestions before the committee were:—The Rickmansworth by-pass, the Stanmore improvement from the Oxford-road to the Colchester-road, from Chertsey to Barnet, the north and south line through Greenford, and also through West End and Yeading, from Northolt to Pinner, and Pinner to South Harrow. Consideration of these suggestions was deferred.

The route recommended for the north circular road in this section runs from the River Brent to the Harrow-road, and past Stonebridge Park Station and under the London and North-Western Railway, then across canal to the Lodge at Twyford Abbey, afterwards passing under the District Railway by the existing bridge at Park Royal Station, thence into Hanger-lane, which it will follow to the south over Ealing Common, and by Gunnersbury-lane to its junction with Chiswick High-road, where the Brentford by-pass commences. The connection at Edgware-road end was referred back for reconsideration owing to a difficulty about getting the land for the route proposed.

Mr. Claude Robson, the Engineer to Willesden Council stated that, although his Council would support these proposals administratively, he was certain that they would not contribute financially.

For the Sudbury extension the Wembley Urban District Council suggests a new road on west side of District Railway to join Hanger-lane west of Alperton. It would begin at the corner by Sudbury Park Farm along an existing line of road as far as the District Railway, where a new bridge would be required, and then follow the general line of Green-lane to join north end of Hanger-lane. This was approved.

The western avenue was approved as follows:—From the Oxford-road about a mile beyond Uxbridge it should lead in an easterly direction over the Colne, the Grand Junction Canal, the Shire Ditch, the Great Western Railway and Fray's River to a saddle in the ridge at the south end of Harefield-place, continuing past Northolt and Greenford to Perivale, thence across Hanger-lane. South of the Great Western Railway and Willesden-lane, then over the Great Western Railway and the North and South-Western Junction Railway, across Old Oak Common-lane and Wood-lane and under the West London Railway to Silchester-road and Blenheim-crescent. Part of this route near Acton is now partially blocked by building developments, but in view of the better facilities for crossing the railways and the easier grades it is considered wise to adhere to the original line. Mr. W. E. Riley referred to the efforts of the London County Council towards a continuation of the Euston-road westward as far as the county boundary with the object of joining up with the western avenue through Middlesex County.

A discussion took place as to the suggestion that the existing road might be made use of through Greenford and Perivale. It would be longer and would require a good deal of improvement, as at present it is very crooked, especially at West End and Greenford. On a proposal by Mr. Willis (Chiswick) to refer the matter back, it was decided to adopt the proposed new route. The connection at the eastern end with Marylebone-road would be by way of Westbourne-grove and probably Cornwall-road.

The same resolutions relating to reappointment of sub-committee, the recommendation to the Local Government Board as to estimates, and the 25-in. plans and Report were passed as at other Sectional Conferences, but the resolution as to the proposed new powers to prescribe buildings was limited to existing main roads.

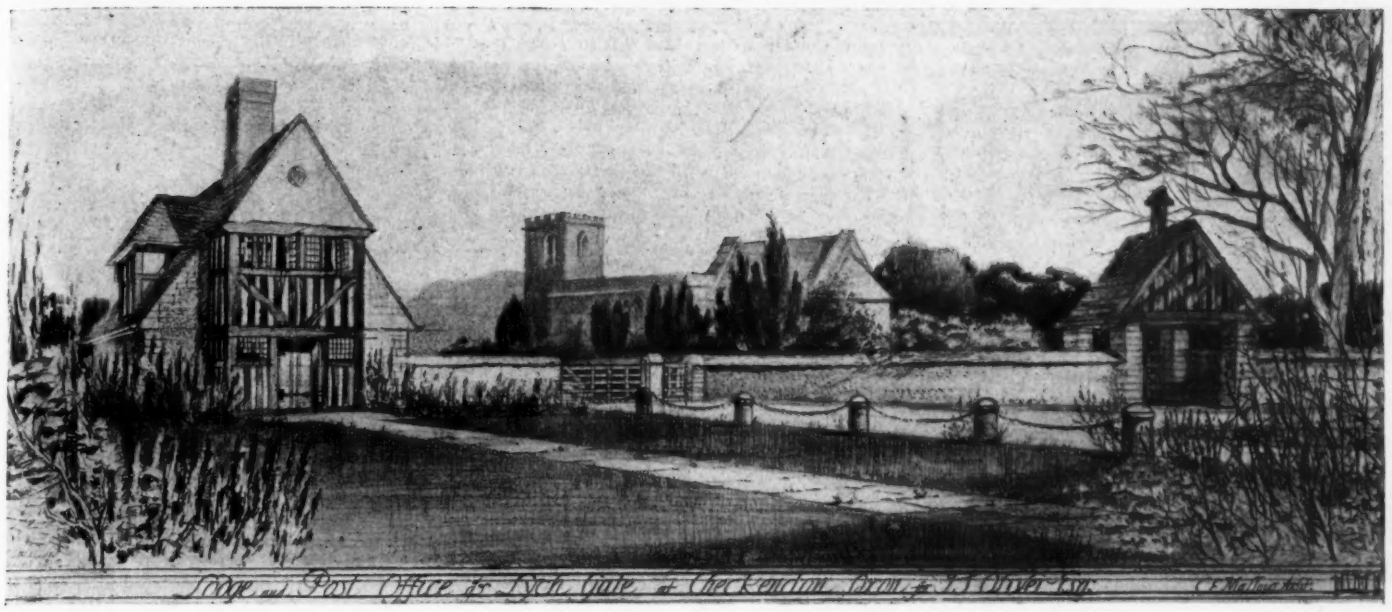
OBITUARY.

Mr. C. E. Mallows.

In our last issue (p. 528, *ante*) we announced with great regret the death, suddenly, of heart failure, on June 2, of Mr. Charles Edward Mallows, of Biddenham, Bedford, and of No. 28, Conduit-street, Hanover-square, London, W. Mr. Mallows was Pugin Student, 1889, and he was elected a Fellow of the Royal Institute of British Architects in December, 1900, and served as Member of Council, 1904-5, 1906-8, and 1909-10, and of the Literature Standing Committee, 1904-6. Of his architectural drawings we have published in our "Cathedrals of England and Wales," and "Abbeys of Great Britain" series those of Gloucester (December 5, 1891), Llandaff (May 7, 1892), Southwell (July 2, 1892) Cathedrals, and Netley (April 6, 1895), Romsey (October 5, 1895, with plan), and Kirkstall (January 4, 1896, with plan based upon one made by Mr. F. W. Bedford) Abbeys; also the Cloisters, Gloucester Cathedral (October 19, 1889); the tower and spire, Holy Trinity, Coventry, when on tour as Pugin Student (April 12, 1890); the flamboyant gate, Albi Cathedral, S. Cécile, France (January 26, 1895), Notre Dame, Paris, showing the towers restored after Viollet-le-Duc (March 16, 1889), the Belfrey, Calais (November 14, 1896); and the private chapel, "Battenhall Mount," Worcester, Mr. R. A. Briggs, architect (May 2, 1896, two views of interior). He made many pencil-drawings for Miss G. Jekyll and Mr. L. Weaver's "Gardens for Small Country Houses."

Mr. Mallows was the architect of a boat-club house with entrance-lodge to a private house (November 12, 1892*); a house on the Severn, near Upton, for Mr. James Seaforth (October 13, 1888*), "a London street front" (September 8, 1888*), and "additions to an old house" (April 25, 1891*); rood screen, Cranfield Church, and house with the garden, at Biddenham; house and the garden near Sherborne, Dorset; "Tirley Garth," and the garden, Tarporley, Cheshire (November 28, 1908, and May 7, 1915*); a design for the restoration of the moat bridge and gatehouse of the west front, Hampton Court Palace; oaken footbridge, Eaton Hall (Juy 23, 1910*); labourers' cottages, Brickenden, Herts, for Mrs. Kingsley (July 9, 1910*); houses, Gidea Park Garden Suburb, Romford; cottages, Crowcombe, Somerset; alterations and improvements, with new front and walled-in pond-garden, Canons Park, Edgware, for Mr. A. Du Cros, M.P.; houses at Abingdon, and Craig-y-parc, Pentwith, near Cardiff; and a scheme for laying-out South London (Royal Academy, 1913). Messrs. Mallows & Grocock, of Bedford and London, were the architects of Stapleford Park, Leics., the Council school, Barnby-lane, Newark, for 600 children; house at Pembury, Tunbridge Wells, and the Lodge, Pembury; work at Bedford Grammar School; "King's Corner," Biddenham; Science and Art Schools, Newark; St. Andrew's Church (February 18, 1899*), and All Saints' Schools, Bedford; clock tower and campanile, St. Michael's College, Tenbury; terrace and summerhouses, Dalham Hall, Suffolk, for Sir Robert Affleck, with additions to the garden; "Lord Brooke's room," Warwick Castle, for the Countess of Warwick; and in 1905 they were nominated, with nine others, to compete for the Secondary Schools and Technical Institute, Luton. Mr. Mallows was the architect, with Mr. T. H. Mawson, of garden houses with pergolas at "Courtlands," Goring, and "Walmer Lodge," Walmer; and of a design (October 15, 1910*) for proposed buildings for the Carnegie, Dumfermline, Trust; and, conjointly with Mr. Edward White, of the seaside golfing village at Happisburgh, near

* Illustrated in the *Builder*.



By the Late C. E. Mallows.

Cromer (April 16, 1910*); and, in conjuction with Mr. Speaight, of a scheme for an improvement of St. James's Park and the Horse Guards' Parade (March 6, 1909*).

In collaboration with Mr. F. W. Lacey, F.R.I.B.A., M.Inst.C.E., the Corporation Engineer, for the plan, Mr. Mallows prepared four alternative sets of plans and designs for the proposed municipal buildings, with law courts and town hall, Bournemouth. In our issue of December 9, 1905, we illustrated the accepted designs. Unfortunately for the ratepayers and all concerned, the Corporation, as we stated at the time†, changed their minds and relinquished the scheme in that shape.

Messrs. S. B. Russell, Cooper & Davis, and Mallows won the first premium for their plans and designs (out of thirty-two sent in) for the Hull Town Hall extension scheme (July 11, 1903*); Messrs. S. B. Russell and Mallows won the second premium for their designs for the Camberwell Public Baths and Washhouses, Old Kent-road, out of fifty-one sent in, and for the Deptford Town Hall and Municipal Buildings (November 1, 1902*); and they made a notable design for the Harrogate Municipal Buildings. Messrs. Russell, Mallows & Grocock's competitive designs for the Plumstead Municipal Buildings are illustrated in our number of March 23, 1901. Messrs. Mallows and A. W. S. Cross were one of the nine architects selected to take part in the final competition for the Wesleyan Methodist Hall, Westminster; their designs were published in the *Builder*, July 1, 1905, and they were among the six who were nominated to compete for the St. Pancras Central Public Library, winning the third premium; they also took part in the competition for the Birmingham Art Gallery. Mr. Mallows and Mr. J. C. T. Murray, conjointly, won the second premium with their designs (April 23, 1898*) for the Granard Presbyterian Church, Putney. In April, 1900, Mr. Mallows brought out "The Art and Craft of Garden-Making," illustrated with views by the author and with plans and details illustrative of garden design by Mr. T. H. Mawson; his paper on "The Degree of Independence to be Allowed to the Craftsmen," read to a joint meeting of the Architectural Association Discussion Section and the Junior Art Workers' Guild, is reported in our columns of November 30, 1907; and one by him upon "Church Restoration" in our columns of October 22, 1898; in February last year he read a paper upon Hampton Court Palace to the Leicester and Leicestershire Society of Architects. In 1900 he was, we understand, appointed Diocesan Surveyor for the diocese of Ely; he was one of the seven architects nominated to compete for the Acton Public Offices and Town Hall.

Sir Arthur H. Church, F.R.S.

The death, on May 31, at his residence, "Shelsley," Kew Gardens, is announced of Sir Arthur Herbert Church, K.C.V.O., M.A., D.Sc., F.S.A., in his eighty-first year. Sir Arthur Church, who, in October, 1910, retired after thirty-one years' service as Professor of Chemistry, Royal Academy of Arts, was the youngest son of Mr. J. T. Church, of Bedford-row, W.C., solicitor. He was educated at King's College, London, and Lincoln College, Oxford, whence he proceeded B.A., taking a First Class in the Natural Science School. He was Professor of Chemistry, Cirencester Royal Agricultural College, from 1863 until 1879, when he was appointed Professor of Chemistry Royal Academy; in 1880 he was appointed Lecturer upon Organic Chemistry, Cooper's Hill College. He was President, Mineralogical Society, 1898-1901. Sir Arthur Church discovered turacin, "Churchite"—the only British cerium mineral—and many mineral species. He successfully applied the Baryta process to many of our public buildings, among them being Holyrood Palace Chapel; the Bodleian, Oxford; Chapter House, the Abbey, and the Palace, Westminster; and Greenwich Hospital. He devised means to preserve the colours and to strengthen the decayed plaster of the wall paintings by Cope, Maclise, Ward, and others in the Houses of Parliament, and accomplished the restoration of a painting by Orazio Gentileschi on a ceiling in the Queen's House, Greenwich, eight years ago. Of Professor Church's numerous publications we will mention here only his books upon "Precious Stones," fifth edition, 1905; "English Earthenware," and "English Porcelain," sixth editions, 1911; "Josiah Wedgwood," second edition, 1903; "Guide to Corinium Museum," tenth edition, 1910; and "Chemistry of Paints and Painting," the fourth edition of which we reviewed in our last number (pp. 536 and 538 *ante.*). Sir Arthur Church exhibited in the Royal Academy, and was a member of the Burlington Fine Arts Club; he was created K.C.V.O. in 1909, and was elected F.R.S. in 1888; he made a collection of Japanese metalwork, Italian and Oriental embroideries, precious stones, and English and Oriental pottery.

* Illustrated in the *Builder*.
† See our "Note" of January 18, 1908.

CORRESPONDENCE.

Schedule of Conditions for Building Contract.

SIR,—I have read the letter of your correspondent, "Enquirer," and in answer to the second paragraph of his letter I am of opinion that it is necessary for the architect to agree an extension of time with the contractor at the time of giving the order for the extra work.

As to his second question, the fact of not agreeing at the time of ordering prevents any claim for penalties for non-completion being enforceable, but it must be borne in mind in construing this point whether it is an extra or a variation under the contract, and this is sometimes a very difficult point. I would refer your correspondent to condition L in "Comyn's Digest." There are several cases upon the very point he raises, and if "Enquirer" cares to put himself into commuuication with me I shall be pleased to give him further information. W. WOODBRIDGE BIGGS.

Union Bank-chambers,
61, *Carey-street, Lincoln's Inn, W.C.*

GENERAL NEWS.

Safety of Hospitals and Churches.

A highly interesting announcement was made at the special court of the London Hospital on the 2nd inst. In answer to a question, it was stated that information had been received from the War Office to the effect that an agreement had been come to between the British and German Governments for the protection of specified buildings. Such buildings are to be marked with a black and white square and include museums and churches and hospitals, and, it was understood, infirmaries.—*The Times.*

National Guard Engineers in Hyde Park.

On June 5 a detachment of the Engineers' Unit of the City of London National Guard proceeded to Hyde Park for the purpose of erecting a temporary bridge for use by the Post Office Engineering Volunteers in crossing the sunk fence separating Hyde Park from Kensington Gardens. The materials and plant for the construction of the bridge were transported from the headquarters of the Engineers' Unit by a G.P.O. motor van, and arrived at the park about 12.15 p.m. The van was rapidly unloaded by the engineers, who commenced to assemble the main trestle and framework at 12.30, the bridge being completed by 2.30, ready for traffic. The bridge measured about 24 ft. long from end to end, by 8 ft. wide, and was of strength sufficient to carry with perfect safety a column of infantry marching at the double four abreast without breaking step. Those of our readers who know how severe are the vibratory strains resulting from the rhythmic step of troops, even at the ordinary quick march, will at once realise the substantial nature of the construction demanded in this case. On completion of the structure it was tested by a column of the National Guard Engineers, who were marched across in file and then in fours at the quick march, and finally in fours at the double, the result being that the rigidity and safety of the bridge were amply demonstrated. About 3 p.m. the Post Office Engineering Volunteers arrived on the scene under the command of Commandant Gunton, and marched over the bridge in quick time, afterwards crossing it at the double at the request of Platoon-Commander W. Noble Twelvetrees, under whose direction the work was executed. The bridge was built from working drawings prepared by Sapper F. Douglas Fox, M.Inst.C.E., with some slight modifications suggested by Sapper Professor W. Campbell-Houston and Sapper H. Smith. Sapper W. F. Harvey, M.Inst.C.E., acted as engineer-in-charge, and Sapper H. Smith as foreman of works, all the labour necessary having been provided by professional engineers. After conducting two surveys, one across the Serpentine and the other for an assumed military water supply system, the engineers dismantled the bridge, an operation occupying less than thirty minutes, and loaded up the material into the G.P.O. van for re-delivery to their headquarters.

Leading Contents.

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ILLUSTRATIONS.

Bradford Street Planning.

THESE illustrations are given in connection with the article on p. 543 on the recent competition for the replanning of the central area of Bradford.

Typical French Shop-Fronts.

THIS illustration is from a well-known French work on architecture, and it affords excellent suggestion in design. We shall give further illustrations of work of a similar character and interest in subsequent issues.

Suggested Rearrangement of London Railways.

THIS map is referred to in the leading article in the Civic Design Section on p. 549, and it was prepared by Mr. H. J. Leaning to accompany a contribution of his on the subject which appeared in a recent issue of the *Journal* of the London Society.

New Council Schools, Middlesbrough.

THESE are the competition drawings for the new Council schools, Middlesbrough, placed first by the assessor, Mr. John W. Simpson, F.R.I.B.A. The drawings are self explanatory. The accommodation provided is for 1,400 scholars, in four departments, junior and senior boys, junior and senior girls; in addition a special subjects' centre is provided for domestic and manual instruction. The total estimated cost of the buildings is £19,800. The design is by Mr. James Forbes, of Middlesbrough.

The assessor reported as follows :—"The author shows two blocks of school buildings, each of two stories, and a third block between them, mostly one story in height, containing the special subjects' centres. Every inch of the site not occupied by buildings is available for playground space and every classroom is of good shape and faces south by east. The arrangements for cross-ventilation are good; the cloakrooms are well placed and disconnected though susceptible of improvement in detailed planning; the entrances and latrines well disposed; the special subjects buildings well planned. The whole design is carefully worked out and shows good knowledge of school requirements. The elevations are simple and appropriate."

MEETINGS.

MONDAY, JUNE 14.

Incorporated Clerks of Works' Association (at Carpenters' Hall, London-wall).—Mr. T. Simpson on "King's Hospital." 8 p.m.

THURSDAY, JUNE 17.

Society of Antiquaries.—Ordinary meeting. 8.30 p.m.

R.I.B.A. PROBLEMS IN DESIGN.

The designs submitted under Subject XX. will be on view in the Gallery of the R.I.B.A. next Monday, Tuesday, and Wednesday, the 14th, 15th, and 16th inst. inclusive, between the hours of 10 a.m. and 8 p.m.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:
THE ELECTIONS AND THE POLICY OF THE INSTITUTE.

WE give below the names of the members of the new Council of the Institute. The poll was naturally a smaller one than usual owing to the absence of many men who have responded to patriotic calls.

Seeing that controversial matters are in abeyance we may be right in assuming that the voting has been rather for "men" than "measures," as many people consider should always be the case. We are not sure that we agree with their view, for if men have definite convictions on controversial points it seems natural and logical to vote for those who represent these convictions. This may involve some kind of electioneering, but if circulars are occasionally issued, so long as they represent an appeal on principle, issued to all members and not a party whip sent to a few, we can see no want of dignity in the process. If it is wrong in principle, then party government is entirely to be condemned—a standpoint we are not inclined to adopt.

The question of Registration being in abeyance and the R.I.B.A. committed to a new charter, over the merits of which few architects appear to be very enthusiastic, there would be little controversy except the natural cleavage which always separates the more conservative from the more progressive elements in any body.

The Institute has done much in the last year to meet difficulties caused by the dislocation of work consequent on the war, and will no doubt continue to do all that can be effected in this direction.

The Board of Architectural Education is doing a great service to the profession, which must largely look to education to give architects that better standing with the public which will help their cause more than anything else can do.

The direction in which most progress remains to be made is in the conduct of competitions, for, successful as the Institute has been in its efforts to secure recognition from public bodies, it has not made such progress in securing justice to those who compete.

Names of the New Council.

The fifteenth general meeting (ordinary) of the session was held on Monday, when the Report of the Scrutineers appointed to direct the election of the Council, Standing Committees, etc., for the year of office 1915-16, was received, the following being the result of the voting :—

President.—Mr. Ernest Newton.

Past-Presidents.—Messrs. Reginald Blomfield and Thos. Edward Collcutt.

Vice-Presidents.—Messrs. H. V. Lanchester, Paul Waterhouse, Sir J. J. Burnet, J. A. Gotch.

Honorary Secretary.—Mr. E. Guy Dawber.

Representatives from Allied Societies.—Messrs. Graham C. Awdry (Bristol), R. Burns Dick (Northern), F. B. Dunkerley (Manchester), Chas. Kempson (Leicester), Adam F. Watson (Sheffield), Jno. Watson (Glasgow).

Representative of the A.A.—Mr. H. Austen Hall.

Honorary Auditors.—Messrs. R. Stephen Ayling and Arthur Sheppard.

Members of Council.—Messrs. D. Barclay Niven, Hy. T. Hare, Gerald C. Horsley, Andrew N. Prentice, E. A. Rickards, Professor T. D. Adshead, Percy S. Worthington, W. Curtis Green, W. Gilbee Scott, H. D. Searles-Wood, Alexander N. Paterson, Walter Cave, A. E. Richardson, Arthur Keen, Harry Redfern, H. P. Burke Downing, J. J. Joass and E. E. Vincent Harris.

Associate Members.—Messrs. W. R. Davidge, L. Rome Guthrie, Herbert Sheppard, Horace Cubitt, Herbert A. Welch, Philip G. Webb.

Art Standing Committee.—Fellows: Messrs. E. Guy Dawber, Halsey Ricardo, J. Alfred Gotch, Gerald C. Horsley, H. V. Lanchester, G. Gilbert Scott, Arthur Keen, W. A. Forsyth, Ed. P. Warren, and H. Heathcote Statham. Associates: Messrs. Robert Atkinson, H. S. East, L. Rome Guthrie, Basil Oliver, A. Wyatt Papworth, Philip E. Webb.

Literature Committee.—Fellows: Messrs. Andrew N. Prentice, Paul Waterhouse, A. E. Richardson, Arthur Stratton, C. Harrison Townsend, Arthur T. Bolton, E. A. Rickards, C. S. Spooner, T. Fyfe, G. H. Fellowes Prynne. Associates: Messrs. W. S. Briggs, Herbert Passmore, W. Hy. Ward, Walter L. Spiers, W. G. Davies, and Stanley C. Ramsey.

Practice Standing Committee.—Fellows: Messrs. H. D. Searles-Wood, Max Clarke, D. Barclay Niven, Geo. Hubbard, Matt. Garbutt, A. Saxon Snell, W. H. Atkin-Berry, H. O. Cresswell, Edward Greenop, A. W. S. Cross. Associates: Messrs. Edwin Gunn, J. Douglas Scott, H. W. Cubitt, Herbert Sheppard, Percival M. Fraser, and Hy. A. Saul.

Science Standing Committee.—Fellows: Messrs. Bernard Dicksee, W. E. Vernon Crompton, Frederic R. Farrow, C. Stanley Peach, H. Percy Adams, R. Elsey Smith, R. Stephen Ayling, Alfred Conder, A. O. Collard, Horace Cheston. Associates: Messrs. W. R. Davidge, G. Leonard Elkington, Robt. J. Angel, E. W. M. Wonnacott, Digby L. Solomon, and H. W. Burrows.

The following candidates for membership were then elected :—

As Fellows.

Robert Atkinson, Carshalton
C. L. Gill, Hampstead, N.W.
C. W. Harris, Liverpool
L. Hobson Liverpool
D. B. Hutton, Glasgow
J. J. S. Naylor, London
W. C. Oman, Singapore
F. Peck, Westminster, S.W.
H. Porter, London
H. A. Saul, London

And the following Licentiates, who have passed the Examination qualifying for candidature as Fellows :—

J. A. Allan, Aberdeen
H. Baily, Crouch End, N.
W. E. Carless, Montreal, Canada
S. N. Cooke, Birmingham
J. Stuart, Wakefield
J. A. Swan, Birmingham
T. L. Taylor, Glasgow

As Associates.

L. P. Abercrombie, Liverpool
T. H. Barrow, Camberwell, S.E.
H Basta, London
N. M. M. Bhownaggree, London
E. F. Bothwell, Hong Kong, China
D. A. Carmichael, Greenock
W. R. Davison, Morpeth
G. E. Francis, Sydenham, S.E.
T. George, Swindon
B. R. Gribbon, Leeds
T. P. Jenkins, Swansea
H. N. Jepson, Kingston-on-Thames
E. A. L. Martyn, Redruth
E. Meredith, Newbridge-on-Wye
A. H. Owen, Upper Holloway, N.
S. G. Soper, Golder's Green, N.W.
J. O. Thompson, Sheffield
J. A. E. Toone, Melbourne, Australia
H. S. Triscott, Brondesbury, N.W.
C. T. Whiteley, Bradford

BOOKS RECEIVED.

TIMBER. By Wm. Bullock. (London: Sir Isaac Pitman & Sons, Ltd. 1s. 6d. net.)

MATERIALS OF CONSTRUCTION. By Adelbert P. Mills. (London: Chapman & Hall, Ltd. 19s. net; New York: Jno. Wiley & Sons.)

MEMORIALS AND MONUMENTS. By Lawrence Weaver. (London: *Country Life*. 12s. 6d. net.)

HOW TO MAKE AND HOW TO MEND. By an Amateur Mechanic. (London: George Allen & Unwin, Ltd. 2s. 6d. net. New York: The Macmillan Company.)

THE ENGLISH COUNTRYSIDE. By Ernest C. Pulbrook. (London: B. T. Batsford, Ltd. 7s. 6d. net.)

FIFTY YEARS AGO.

The Architectural Professorship, University College, London.

ON Saturday last, at a session of the Council, Mr. Hayter Lewis was appointed Professor of Architecture in the College, from the close of the present session, on the resignation of Dr. Donaldson, who, retiring by reason of long service, will assume the title of Emeritus Professor.

The testimonials submitted to the Council by Mr. Lewis were of the most remarkable character, and could have left them little alternative. Mr. Lewis succeeds a most accomplished, energetic, and excellent man, a man not merely with a head, but with a heart. When we say that we believe the credit gained for the position will not suffer in Mr. Lewis's hands, we pay him the highest compliment in our power.

[*** We give the above extract from the *Builder* of June 10, 1865.]

CIVIC DESIGN SECTION.

THE RAILWAY NEEDS OF MODERN LONDON.

WHEN the railway companies first began to cover the land with a network of roads of communication few people could have foreseen the extent of the industrial growth which was only in its inception, and this country was still far from realising the enormous changes which each decade would bring in its train. London as we know it to-day was undreamt of, and the London of the past was more like a town of the size of Glasgow or Manchester than what it has become—that is, not a city in the ordinary sense of the word, but a closely-populated area containing something like one-seventh of the whole of the population of England. One by one the outer ring of suburban hamlets has disappeared into the maw of the metropolis, and the process goes on with accelerating velocity, and there seems no limit to its operation, which synchronises not with the growth or prosperity of any particular industry, but with that of an Empire into whose lap is gathered the wealth of continents, and whose capital is the meeting-place of all those who transact great cosmopolitan commercial operations, and, last of all, which is more and more displacing all other centres as the greatest city of pleasure the world has ever seen.

If our ancestors had had foresight they might still have preferred to build for the present alone, for the proposals which would have been adequate for the future would have been inconvenient and unduly costly; but they neither foresaw nor provided for our wants of to-day. It becomes a question whether we can take larger views, and in spite of difficulties work out a system which will satisfy present wants and at the same time make provision for the future, and whether, having convictions, we can arouse sufficient interest to induce the community to insist that neither the rights of private companies nor the question of cost shall be allowed to be insuperable bars to the realisation of improvements which, while costing large sums of money initially, will be productive of future economies and afford great convenience to the public.

Mr. H. J. Leaning, in two articles on the "Railway Problem in London," published in the January and May numbers of the London Society's *Journal*, deals with the question in a manner which is at once clear and convincing, and, though there are doubtless flaws in the details of the scheme which he propounds, we think he makes out a convincing case on broad issues.

Briefly put, his case is that the railways entering London have their terminal points too near the centre of its area, tending to cause congestion without affording full facilities for transit. In the map with which he illustrates his case the terminal points of the various companies are placed on the circumference of a ring running through Ealing, Willesden, West Hampstead, Finsbury, Stamford Hill, Clapton, Stratford, Plaistow, Woolwich, Blackheath, Tulse Hill, Clapham Junction, Barnes, Gunnersbury, and Ealing. These new terminal stations would be connected with a ring railway which is partly formed and would partly have to be made. It would thus be possible for the traveller who wished to cross London in any direction to go by railway from one terminal point to another without entering inner London itself, a convenience the advantages of which are obvious. The whole of the railways within this ring would be electrified and placed under one control, thus simplifying the methods of transit in the internal area. Where the lines of two or more railways exist at present because they form part of different systems one or more would be abandoned and the space occupied by it and the cost of its upkeep saved, and where new railways are needed they would be made and form part of the new unified system. The space occupied by the great terminal stations and the ghastly gaps formed by sidings and goods depôts in Central London would be done away with and converted into building land. Many of the railway companies will in the natural order of things have to rebuild their terminal stations within a comparatively short time—Charing Cross, London Bridge, Euston, and others, not to mention such stations as Ludgate Hill and Holborn Viaduct, which must before long, like Waterloo, be rebuilt, and the change would mean that they would be rebuilt on the outer ring, where land is relatively cheap and plentiful, instead of in the internal area, where it is costly and where the necessary areas are difficult to obtain. Insufficient area at terminal points usually means congestion and inconvenience to passengers as well as delay in the handling of goods. Also—and this is by no means a point to be disregarded—the delays and inconvenience caused by fogs in winter would largely disappear, since they would hardly affect the running of the electrified railways in the central area, which alone is much affected by fog. A system similar to that universally adopted in America would do away with the difficulties of dealing with luggage, and the traveller reaching a terminus would continue his journey to any particular spot in the metropolitan area by Tube. The existing companies having lines on the inner area could be allotted shares in the new authority to be formed in proportion to their present interests, and would be joint shareholders in the new company to be formed, or, alternatively, they could be bought out altogether. Many of the great railway hotels are in such positions that they would still secure a good deal of business apart from the railways to which they owe their origin; in other cases they could be converted or pulled down. The area of the City of London cannot for business reasons be extended, and one of the results of the change would be to add to space which is wanted the huge areas occupied by Liverpool-street, Broad-street, and Fenchurch-street stations among others. We have not here space to go into details of the lines to be abandoned or the new ones made, or the methods which would have to be taken in unifying them and adapting them for their new functions. Many of the points are briefly dealt with by Mr. Leaning in the two concise articles, which well repay reading and represent an immense amount of careful thought and analysis, but the more the scheme is considered the more we believe it will meet with the commendation of those who are interested in public improvements. The proposals made are not in any way inconsistent with the project of the clearing house for goods proposed by Mr. Gatti, though the new disposition of railways would render modification necessary.

Railway companies are, fortunately for their shareholders, as a rule cautious, but caution has its defects if it excludes imagination and involves prejudice. The individualistic tendencies which have hitherto been so marked a trait of our countrymen often blind us to the advantages which can only be obtained by collective action, and so it is quite possible that the railway companies themselves would oppose what we believe they would in the long run find promotes their own interests.

If this be so, it remains for public opinion to make itself heard, and to obtain the appointment of a Royal Commission to inquire into the merits of the whole question of railways in the metropolitan area.

The suburban traffic of the great railway companies at present frequently does not pay owing to competition with other companies, tramways, motor-bus services, and different means of transit, but it must be maintained as long as the terminal points remain where they are at present. With the removal of these to the outer ring the whole question can be considered and dealt with on its merits and fares fixed according to a reasonable standard.

The moment is opportune for bringing such a scheme forward, as in consequence of the war no new railway schemes are likely to be put in hand, while railway directors and managers may well give thought to the broad problems which await settlement in the future, and this, as we have pointed out, is a scheme which will in the end promote economy.

For both practical and architectural reasons we hope the *ballon d'essai* thrown out by Mr. Leaning will receive the attention and discussion which it well deserves, and we give a plan showing the nature of his proposals as one of our illustrations this week.

TOWN, SUBURB, VILLAGE.*

ONE can only hope to deal somewhat superficially with some of the problems affecting these communities in a half-hour paper, and I shall confine myself principally to the traffic question, more in the hope of arousing discussion than of attempting to impart information. Indeed I believe that in Belgium the traffic problem has been dealt with in a more efficient manner than in most countries, especially in regard to cheap and convenient transit, but the problem is so intricate and the factors are so constantly changing that one can hardly give too much attention to it.

What are the general conditions? To begin with, man is a gregarious animal, and solitary confinement is a punishment that he reserves only for criminals. A centre of community is therefore necessary, primarily, on account of the sociable instincts of mankind, mutual protection having largely ceased as a factor, but also to simplify commerce. Following these needs in the past, man has founded first villages, then towns, and more lately the towns have begun to spread, the surrounding villages becoming suburbs and being gradually absorbed and losing their identity.

In many cases on the continent towns were for long years constricted by their fortifications, and the centres got appallingly congested before the fortifications were done away with and expansion became possible. This constriction was not an unmixed evil, as in many cases the fortifications were turned into boulevards, and the outward growth came at a time when men were beginning to realise the necessity for town planning.

With the expansion of the town land has grown more valuable in the centre, business premises have taken the place of houses, and for these two reasons the dormitories of the people have moved further out.

The social questions involved in the suburb I shall not touch on except to say that there is a great loss to communal life when people's business and pleasure interests are largely divorced from the place where are their homes, as under such conditions the home becomes merely the dormitory and the sleepy suburb appears to lack any virility of its own, whilst its inhabitants lose all identity among the millions that make the great city.

The solution would appear to lie in the direction of creating subsidiary centres, not suburbs, where work would be carried on by the inhabitants, but each centre being properly connected with the big centre for purposes of organisation and exchange. In fact, a sort of solar system, the planets represented by the subsidiary centres. I have never heard that there is any feeling among the inhabitants of the earth that they lose their identity because of their dependence on the sun! The arrangement of all this is very much a matter for the town-planner, and transit will play an important part. Markets form one of the chief factors, as established markets are extremely difficult to move and new ones very hard to create.

The Royal Commission on London Traffic found the market problem too much for them, and in their Report of 1905 say:—"It has been represented to us that the position of the great markets in London seriously affects the traffic question, as the goods for sale in these markets have to be carried to them for long distances through the Metropolis, and afterwards carried back again for distribution to the retail dealers. Having regard to the repeated failures of attempts that have been made in the past to remove markets or alter their position, we do not feel ourselves justified in making any recommendation on the subject."

Centres of industry are much more easily created, and therefore the problem is to put them where they can be efficiently carried on and where the employees can get the best conditions of health and enjoyment. Manufacturers have long ago found that the health and well-being of their employees has a definite commercial value, but in removing their works more into the country they have not solely considered the question of amenity; indeed

* A paper by Mr. G. L. Pepler read at the Conference of the Belgian Town Planning Committee at University College on the 19th ult.

that has probably been a secondary consideration, the first covering such matters as accessibility to markets and raw products, cost of site and of power, local rates, etc.

In recent years there has been a marked tendency to increased centralisation in some matters, with more decentralisation in others. In business the Trust is absorbing the small trader, which, up to a point, results in greater efficiency, if less individuality. On the other hand the tendency has been to move works away from the centre, and the improvement of transit facilities and the cheapening and easy distribution of electrical power have facilitated this. In fact decentralisation in some respects is leading to greater centralisation in others, because improved methods of transit increase the circumference in touch with the centre.

The mistake in the past has been that the spread from the centre has been a "sprawl" and not a well-ordered advance. What is required, in my opinion, is that the built-up centre and subsidiary centres should be definitely separated by agricultural and open areas so that identity is not lost, a proper local spirit may be aroused, and health and enjoyment may be benefited. Improved methods of transit have made such a separation perfectly feasible without any hindrance to commerce or social intercourse.

Passenger Transportation Problem.

In considering the traffic question in this respect first let us deal with the *Passenger Transportation Problem*, for which my text-book will be a pamphlet with that heading produced in 1914 by the City of Manchester Tramways Department. This pamphlet is the result of the labours of a sub-committee who, in the course of their investigations, visited most of the great cities of the world, and their Report is a mine of valuable information.

The Report states that the main factors affecting the problem are the same in every city. The gradual outward growth tending to congestion in the centre became acute at an earlier date in some cities "owing to the narrowness and bad lay-out of the streets in the older parts of the city, to the absence of suitable arterial roads, and to the presence in the central zones of a large amount of ordinary vehicular traffic, which, if it is slow-moving, tends to retard the general flow of traffic."

The evolution of the means of city passenger transportation began with the horse-drawn omnibus, then came, successively, the horse-drawn tram-car, the steam tram-car, the cable tram-car, the electric tram-car, the motor omnibus, and the electric trolley 'bus. In London and Paris there is also the Underground Railway, and in America and Berlin you find the overhead street railways and the shallow subway. The provision of better travelling facilities is always accompanied by a great increase in the amount of travel, although the number of journeys per head in the cities of this country is still considerably less than in the United States. Railways have been superseded to a certain extent as regards short distance travel, although electrification has, in some cases, greatly improved their usefulness.

Improved and cheaper transit facilities are bound to help the housing problem, as a far wider area of choice of home is opened up for the worker, and on the whole the price of land tends to decrease as the competition to dispose of it increases.

In London in 1909, 60 per cent. of the local passenger traffic by public conveyances was by road and 40 per cent. by rail; in 1913 the figures were 68 per cent. and 32 per cent. respectively.

The dive underground was, perhaps, inevitable for fast transit in congested centres, but the following figures are of interest: Up to 1912, £54,817,007 (1,370,425,175 francs) capital had been expended on underground railways in London, on which no ordinary dividend was paid in 1912 as regards two of the companies, and the highest dividend paid by any company was 2 per cent.

I cannot help thinking that if some of this vast sum had been spent on the surface we might have got many fine boulevards with separate tram or light railway tracks which would have added much more to the convenience, health and enjoyment of the general public. On the other hand, the Metropolitan Railway in Paris has proved very profitable.

I give in full the summary of the more important lessons drawn from the wide investigations of the Manchester Committee:—

1. That in all cities and towns there is an immense potentiality in the riding habits of the people. Everywhere there is a continual growth in the number of journeys per head of population, and the provision of new or improved transit facilities accelerates this growth in a very marked degree.

2. That in planning city transit facilities a wide outlook is all-important; any schemes carried out on narrow or confined lines ulti mately result in serious losses to the community from every point of view.

3. It is essential that every city should have a permanent authority directing the initiation and carrying-out of all schemes for new transit facilities, in order that there may be continuity of policy, and that future needs of the city and the surrounding districts over a wide area are properly looked after. It is also desirable that all the means of passenger transportation—both surface and rapid transit—should be centralised under one management. If the mangement is not that of the city itself, then it should be subject to control and regulation by a permanent authority appointed by the city.

4. That, in planning underground lines for rapid transit, the aim should be to supplement the surface-transit facilities; that the rapid-transit lines should be laid so as to follow as closely as possible the direction of the flow of the greatest volumes of traffic; and the surface lines should be adapted so as to act as feeders to the rapid-transit lines at all convenient points.

5. That, on account of the great initial cost, the construction of underground rapid-transit lines cannot be justified unless there is a very large volume of traffic to be dealt with; that, speaking generally, underground subways for tramcars are an unjustifiable expense, owing to the comparatively small number of passengers it is possible to pass through them by single up or double-unit cars. Underground lines, if they are to be placed upon a paying basis, must be worked by high-speed trains operated at a very close headway. This demands a great density of traffic.

6. That motor-'buses have proved themselves to be an exceedingly valuable means of surface transit, especially under conditions such as exist in London and Paris; but the question of their general adaptability for conditions which exist in other cities, and the part they will play in the future, either in supplanting or supplementing the existing tramway facilities, calls for a careful analysis of their advantages and disadvantages from the local point of view.

As to methods of passenger transit I most warmly second the recommendation for central control, so that the various types of service may be made supplemental to each other.

It must also be recognised that the road is becoming more and more the chief bearer of all kinds of traffic, and that therefore its proper disposition, design, and construction are of the greatest importance, and it is high time that as much consideration was given to this matter, and scope allowed for fixing routes, as has held good with regard to railways.

Without doubt, in busy streets of less width than 50 ft. (15·24 metres) from kerb to kerb, the tram becomes a hindrance to general traffic. On the other hand, in a sufficiently wide street, with a track for its separate use, made in effect into a light railway, without too many stopping-places, the electric tram is probably about the most economical and efficient form of rapid transit. I believe that Mr. Brodie has found, at Liverpool, that to widen a 40-ft. (12·19 metres) road, through open land, up to 120 ft. (36·57 metres), with trams laid on sleepers in grass track, costs less than to widen it to only 80 ft. (24·38 metres) with paved tramway track, the cost of the extra land being more than met by the saving in cost of track construction.

Such a tramway is excellent for the outskirts of a big town, but is obviously hardly possible in the centre, and here the more mobile motor-bus has the advantage, particularly as it can take passengers up from and set them down at the kerb.

As regards trams the conditions in Vienna appear to me excellent, where you have trams all round and radiating from the inner Ringstrasse so that they are accessible from all points in the centre, but are not allowed right inside.

Transportation of Goods.

For heavy goods the canal and railway were for many years the principal channels of inland conveyance, and the latter still holds premier place in this country, the canal not having been developed to nearly its full capacity. Nevertheless a great change is taking place in the increasing use of the motor-lorry, so that not only are the roads being used for the conveyance of light goods and passengers, but also for very heavy traffic indeed.

The roads were neither designed nor constructed for this volume and weight of traffic, and consequently we get severe congestion and delay, danger to life and limb, and also heavy cost of upkeep.

In 1904, 155 people were killed by accidents in the streets and 10,384 injured, within the Metropolitan Police area; in 1913 the figures had risen to 608 and 23,765 respectively.

It is quite clear that this motor road traffic is still in its infancy, and that any steps we take to meet it must not be based on present conditions only, but must have regard to the future.

I feel sure that we shall be driven, ultimately, to sorting the traffic and separating the fast from the slow, and the through from the stopping. For example, the arterial road of the future might be divided somewhat on the following lines:—

10-ft. (3·05 metres) footpath, 16-ft (4·87 metres) service road, 30-ft. (9·14 metres) tree-planted *pleasaunce*, 24-ft. (7·32 metres) way for fast motors, 24-ft. (7·32 metres) grass track for trams, 24-ft. (7·32 metres) track for slow motors, 30-ft. (9·14 metres) tree-planted pleasaunce, 16-ft. (4·87 metres) service road, 10-ft. (3·05 metres) footpath, making a total width of 184 ft. (56·08 metres).

The Royal Commission on London Traffic recommended the following standard widths for new streets or widenings:—

Main avenues	140 ft. (42·67 metres)
First-class arterial streets	100 ft. (30·48 metres)
Second-class streets ..	80 ft. (24·38 metres)
Third-class streets ..	60 ft. (18·29 metres)
Fourth-class streets ..	40 or 50 ft. (12·19 or 15·24 metres).

Street traffic has, of course, developed enormously since that Report was made. The great thing to bear in mind is that streets should be designed and constructed to suit the traffic that they are likely to meet, and that the arterial highway should be treated differently from the residential road.

It is appalling to think of the time and money wasted and the inconvenience at present endured through the indiscriminate use of all streets by any kind of traffic, and it is quite clear that any money spent on properly thought out relief or new arterial roads will be most necessary and productive expenditure.

In touching on this traffic problem I have dealt principally with the roads, as that appears to me to be the most pressing matter requiring immediate attention.

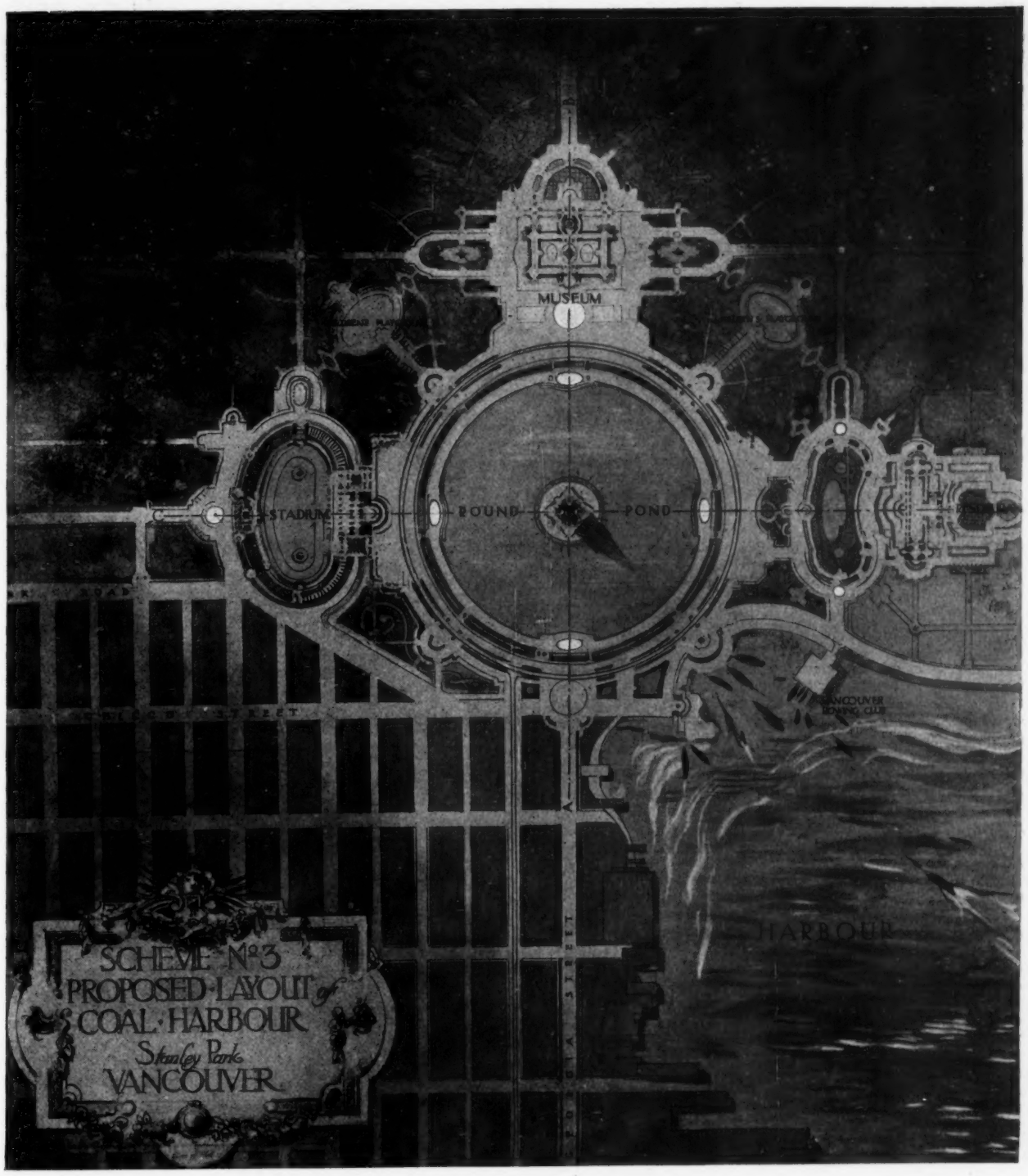
Many improvements are, however, possible as regards canal facilities, especially in this country, and in the direction of improving the connections between different lines of railways so as to facilitate through and circular traffic both as regards passengers and goods.

Also a great deal of traffic might be taken off the streets if factories were scientifically grouped so that railway sidings could be easily taken to them. Not only would this save wear and tear of streets, and largely eliminate the waste of time at present caused by traffic congestion, but a great economy would be effected in labour by reduction of the handling of goods in transit.

THE LAY-OUT OF COAL HARBOUR AND STANLEY PARK, VANCOUVER, B.C.

THE plan for this work, which we reproduce, shows the scheme prepared by Messrs. Thomas H. Mawson & Sons, of London, Lancaster, and Vancouver, for converting about 100 acres of waste ground, about half of which is covered with water at every high tide, into an approach to the world-renowned Stanley Park at Vancouver.

The site of the scheme stands between the city and the park, and some treatment designed to bring it into keeping with its function as an approach to the park and to link the two together is obviously called for. Three alternative designs were submitted, the first showing the area dealt with on landscape gardening lines; the second showing the area devoted entirely to recreation purposes; and the third, the one which we illustrate, which combines the advantages of the other two and approximates more nearly to what the French



Proposed Scheme, Vancouver.—By Messrs. T. H. Mawson & Sons.

know as "the grand manner." This is the scheme which has been adopted by the City Council, and a commencement has already been made upon the necessary filling-in of the tidal bay, which, of course, must precede the carrying out of the design.

Georgia-avenue, which is adopted as the main axis for the scheme, is the principal and most stately boulevard in Vancouver, and the treatment of the area under review is intended to secure the proper connection between the town and the natural park beyond. Those who know Vancouver will remember that the latter, Stanley Park, is a natural reservation left very much as it was found, in a state of nature, with the addition of a fine drive-way encircling it from which the splendid views across the Vancouver Bay, with the snow-capped Rocky Mountains in the distance, can be seen, and the wonderful proportions of the giant pines which clothe the whole area can be adequately appreciated.

As indicated on the plan, 26 acres of the added area will be laid out as a round pond, in the centre of which is to be placed a great obelisk and statue to Capt. Cook, the discover of Vancouver, for which purpose there is already a fund in hand. Closing the visual axis of Georgia-avenue, it is proposed to place a stately building housing a museum of the natural history of British Columbia, and it is hoped that the Provincial Government will undertake this part of the work. An influential body of sports enthusiasts and financiers has offered to erect the Stadium on the west end of the cross axis, and the Municipality propose to erect the Kursall at its east end. Very fortunately, part of the money necessary for the construction of the great circular boulevard surrounding the circular pond was voted some years ago for bridge purposes, it being intended at the time to leave the tidal bay much as at present and to erect a new bridge in the position of an old wooden structure, which forms the only connection at the present time. Thus, by inducing a number of interests to work together, it is hoped to secure a composition which will be worthy of the city, to the beauty of which this area may so enormously contribute

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TOWN PLANNING AND MUNICIPAL HOUSING:

CONDITIONS IN SCOTLAND.

THE subjects of town planning and municipal housing were the principal topics discussed at the annual meeting of the Scottish District of the Institution of Municipal and County Engineers, held in the County Hall, Ayr, on the 4th inst., under the chairmanship of Mr. J. S. Pickering, Borough Engineer, Cheltenham, the President of the Institution. In the afternoon one section of the members made a round of some of the municipal works in Ayr, and were entertained at tea by the Corporation at the Heathfield Hospital, where an important extension is being carried out, and another section visited the Burns' shrines at Alloway and were entertained at tea at the Tea Gardens. In the evening the annual dinner of the Institute was held in the Station Hotel.

Mr. John Bryce, Office of Public Works, Glasgow, late Burgh Surveyor of Partick, read a paper on "Town Planning for Scottish Conditions." The Scottish Local Government Board, he said, had issued procedure regulations for regulating generally the procedure with respect to the preparation or adoption and the approval of town-planning schemes, but as yet they had not issued any set of general provisions dealing with the matters particularly referred to in the fourth schedule of the Act. Local authorities would therefore have to formulate provisions themselves, and especially on such matters as width of roads, height and character of buildings, provision of open spaces, and the limitation of the number of houses per acre. Owing to the difference between the English and Scottish methods of building development it was essential that some general principles should be arrived at in view of the preparation and impending approval of the first town-planning schemes in Scotland. The provision of the existing statutes applicable to Scottish cities and burghs would have an important bearing in arriving at reasonably sound principles for town-planning development.

Among the chief features requiring to be fixed in any town-planning scheme were:—(1) The minimum width of subsidiary roads; (2) the minimum percentages for open spaces in dwelling-house areas; (3) the maximum height and character of dwelling-house areas; and (4) the maximum number of dwelling-houses per acre for various classes of buildings. One of the advantages claimed by the operation of the Act was that it would enable authorities to make arrangements with proprietors for the provision of a system of open spaces and wide building lines by bargaining in connection with the cost of road construction. It was a question whether this could be realised as easily in the case of Scottish building development as could be done in the more common type of open development in England. In the Dunfermline scheme roads were proposed as narrow as 20ft., including footways, where the carriage-way was 13 ft. wide and the length did not exceed 350 ft. Such streets were to be provided with one turning space near the centre. It appeared to him that for modern conditions it would be better to have the carriage-way of a road, even in the quietest of areas, wide enough to allow two vehicles to pass each other. That would require a minimum width of 18 ft. for carriage-way, and with footpaths of a minimum width of 5 ft. would fix the total minimum width of the street at 28 ft. Such a width would be a great difference from statutory widths, and the difference in cost in a complete system of subsidiary roads would form a suitable basis for negotiations in regard to the provision of open spaces and wide building lines. In the case of an area to be developed in a more urban district, say, where tenements of from two to four stories were proposed to be erected, the increased population and traffic would require that the minimum width of such subsidiary roads should be increased in the carriage-way to 24 ft. and in the footpaths to 8 ft., giving a total width of 40 ft. between the parapets. In the case of roads where tenements of dwelling-houses were proposed to be erected an endeavour should always be made to fix minimum building lines at 80 ft. apart in the case of two-story tenements, 90 ft. apart in the case of three-story tenements, and 100 ft. apart in the case of four-story tenements, especially where these were running east and west. Modern medical authorities insisted so strongly upon the necessity of sufficient solar light reaching the dwelling-houses of the people that every available opportunity should be seized by town-planning engineers to provide for it.

With regard to open spaces, the Dunfermline scheme fixed the minimum of such spaces at ½ acre. It was difficult to see the practical value of spaces of ½ acre in extent dotted all over an area more or less extensive. Two-acre spaces would secure an open and ornamental character of development for urban conditions and at the same time provide suitable recreation places for young children, and should be arranged, if possible, on the principle that they will increase considerably the value of the houses fronting or adjacent to the open spaces. It was of the utmost importance that in the initial town-planning schemes in Scotland the question of the limitation of the height of buildings should be carefully considered. It had been the dominant note for years at conferences on town planning that the Scottish system of building long rows of high tenements should be abolished as soon as possible. That demand was easily understood by all acquainted with city life, and every possible attempt should be made to alter the system by all the constitutional means within the power of an authority. It was clear that on this question of height there was a unanimous opinion that, wherever possible, four-story tenements should be abolished and that the extreme height of this class of building should not exceed three stories. The question of the number of dwelling-houses per acre for various classes of buildings was perhaps the most important in all town-planning schemes. The aim of the Housing and Town Planning Act was, *inter alia*, to reduce as far as possible the number of dwelling-houses which should be built on an acre of ground. There were certain facts about housing reform which should be recognised and acted upon in dealing with this section of town-planning detail:—(1) No single-apartment houses should be built and houses of two apartments should be discouraged as far as possible, but where these must be built provision should be made for through ventilation of the houses; (2) if tenements were to be erected, these should not exceed three stories in height, and there should be no corner blocks; (3) every effort should be made to get building lines widened out to the minimum he had suggested; (4) statutory widths for back space should be maintained and also heights of ceilings in all tenement houses; (5) an open space of not less than 2 acres should, if possible, be arranged for every 500 houses. If these suggestions were approved, then they had a definite basis on which to arrive at a grading scale for various sizes of houses in tenements of various heights. The provision of an open space for a certain population should not be left to haphazard results, but should be definitely provided for either by adopting open space units or by specifying the percentage of open space that is to be provided in any area of a building scheme.

Mr. F. G. Holmes, Govan, said he hoped the question of the minimum width of roads would not be decided on the "hit or miss" principle of bargaining with proprietors for the provision of a system of open spaces and wide building lines as a set-off for narrow and cheaply constructed roads, but that the width of these and other roads would be fixed entirely on practical knowledge of road requirements, with ample provision for future developments. In his opinion the minimum widths suggested by Mr. Bryce should be increased to 22 ft. or 24 ft. for carriage-ways, and 6 ft. to 7 ft. for footways, making in either case a combined width of road and footways of 36 ft., being the minimum provided for in the Burgh Police (Scotland) Act, 1892. Where ground was cheap and the ground was to be occupied by villas, self-contained terrace houses, or two-flatted dwelling-houses let in flats a greater width should be aimed at to permit of a line of trees and shrubbery on either side of the road between the carriage-way and the footways. He did not agree that the erection of single-apartment houses should not be permitted, because there were many people whose circumstances would not permit of them living in larger houses, and, provided there were not more than one or two people occupying a single-apartment house, there did not seem to be any reason why such houses should be denied them.

Mr. W. Ross Young, Middle Ward of Lanarkshire, said it was well to remember that the study of town planning did not rest with the consideration of those factors likely to determine the growth of any particular or restricted area, but must involve consideration of the relationship which such area occupied or might ultimately bear to others. The open mode of development obtaining throughout England as compared with the Scottish tenemental system was a good and sufficient reason why they should follow and adopt as far as possible those principles already laid down by the English town-planning schemes, and which had been carefully formulated with a view to retaining and even accentuating the open mode of development.

Messrs. Young, Ayr; Thomson, Dundee; Smith, Dunfermline; and Lee, Paisley, also took part in the discussion.

In his reply Mr. Bryce said that in England there was practically no other form of building development than what was known as the open type, and the English by-laws were all framed to regulate that class of building. It must be admitted that it was practically impossible to work out land units for tenement areas in the way that could be done for open development. He thought the day would come before very long when local authorities would arrive at some kind of definite proposals, on a kind of model by-law idea, for town planning.

Municipal Housing.

Mr. W. A. Macartney, Johnstone, in a paper on "Municipal Housing," said in examining the arguments for municipal housing other than that of real urgency they found that municipalities were being asked to take up housing because private enterprise had failed to keep pace with local demands. It was said that private enterprise was better able to build houses than a public authority. Of course, that might be true to a greater or less extent, but in that case, as Euclid would say, "similarly," private enterprise must also be better able to build waterworks, gas-works, tramways, wash-houses, and a score of other recognised factors in modern communal life. In this climate a substantial and healthy shelter of some kind was one of the necessaries of life, and it was putting the cart before the horse to provide water, gas, sewers, and roads and put the onus on others to provide the house. It was not suggested that private enterprise should be harassed or hindered in any way—rather let it be encouraged—only it was suggested that local authorities and their officials should adjust themselves not only to the need but to the trend of the times. While schemes of rehousing might cost more than could be recovered from the tenants by way of rent, there was no reason why, with careful consideration of ways and means, new housing should not be on an economic basis, and that without increasing the rent, so that, as sometimes happened, the class that the dwellings were intended for were unable to pay for them.

Roads and Traffic.

Mr. R. Drummond, county road surveyor, Renfrewshire, dealt with the "Practice of Road Work." He said that experience had shown that macadam laid on the mud-and-water principle was, in the end, the most expensive and for carrying mechanically-propelled traffic gave the poorest results. For roads carrying a light or medium traffic an improved system of laying macadam was to bind the metal with whin or granite chippings, and if laid in winter the moisture in the road would keep the surface quite good until the dry weather permitted of tar-spraying in the spring. If the metal was laid during the spring the binding should be tar-sprayed as the work proceeded. For roads with heavier traffic the same process of metalling should be carried out, but, if possible, during the summer months only, and the surface consolidated with a more liberal application of tar or bituminous mixture.

Mr. James M'Fadzean, B.Sc., assistant burgh engineer, Ayr, gave details regarding the pressure scraping of 15 miles of the Ayr Corporation water main.

Mr. Allan Stevenson, county road surveyor, Ayr, gave a description of the experimental stretches of road laid in the Ayr district.

[This report is taken from the *Glasgow Herald* of the 5th inst.—ED.]

A NOTABLE BELGIAN STATUE.

A committee is formed to collect subscriptions for the purchase for the nation of the fine piece of sculpture, "Le Premier Matin," by M. Egide Rombaux, which is one of the exhibits in the Royal Academy Rooms. Of the total sum (£800) required, nearly £600 has already been contributed by donors, among whom are the President, R.A., Sir T. Brock, Sir W. Goscombe John, Sir W. B. Richmond, Sir Aston Webb, H. Thornycroft, John Sargent, John Lavery, and many who are not professional artists. Subscriptions may be sent to the hon. treasurer, Mr. Hughes-Stanton, A.R.A., Scarsdale Lodge, Wright's-lane, Kensington, W.

VENICE AND THE WAR.

A *Daily Chronicle* special correspondent, in a communication from Paris, dated May 29, says:—A message from Venice states that two Taubes flew over Venice last evening and dropped a number of bombs. Some of the bombs were evidently aimed at the monuments in the Piazza San Marco, but they fell hopelessly wide of the mark and plunged into the water of the Bacino. . . . As a precaution against further raids, the colonnade of the Doges Palace has been bricked in and sand heaped in front. The roof of the palace and the cathedral are now protected with bags of sand, and the bronze horses have been removed from the cathedral arch.

CIVIC ARCHITECTURE.

The Special Committee appointed by the Manchester City Council to inquire into the existing methods adopted in connection with civic architectural matters have invited the Manchester Society of Architects to send a deputation to lay the views of the Society on this matter before the Committee. The Committee also decided to interview the various Corporation departments concerned. The Committee was formed on the proposal of Mr. Ross Clyne in order to ascertain whether architectural designs for Corporation buildings could not be undertaken more efficiently and more economically if given out to private architects, instead of to the City Architect, who, it is contended, was not appointed for this work, but to act in an advisory capacity.

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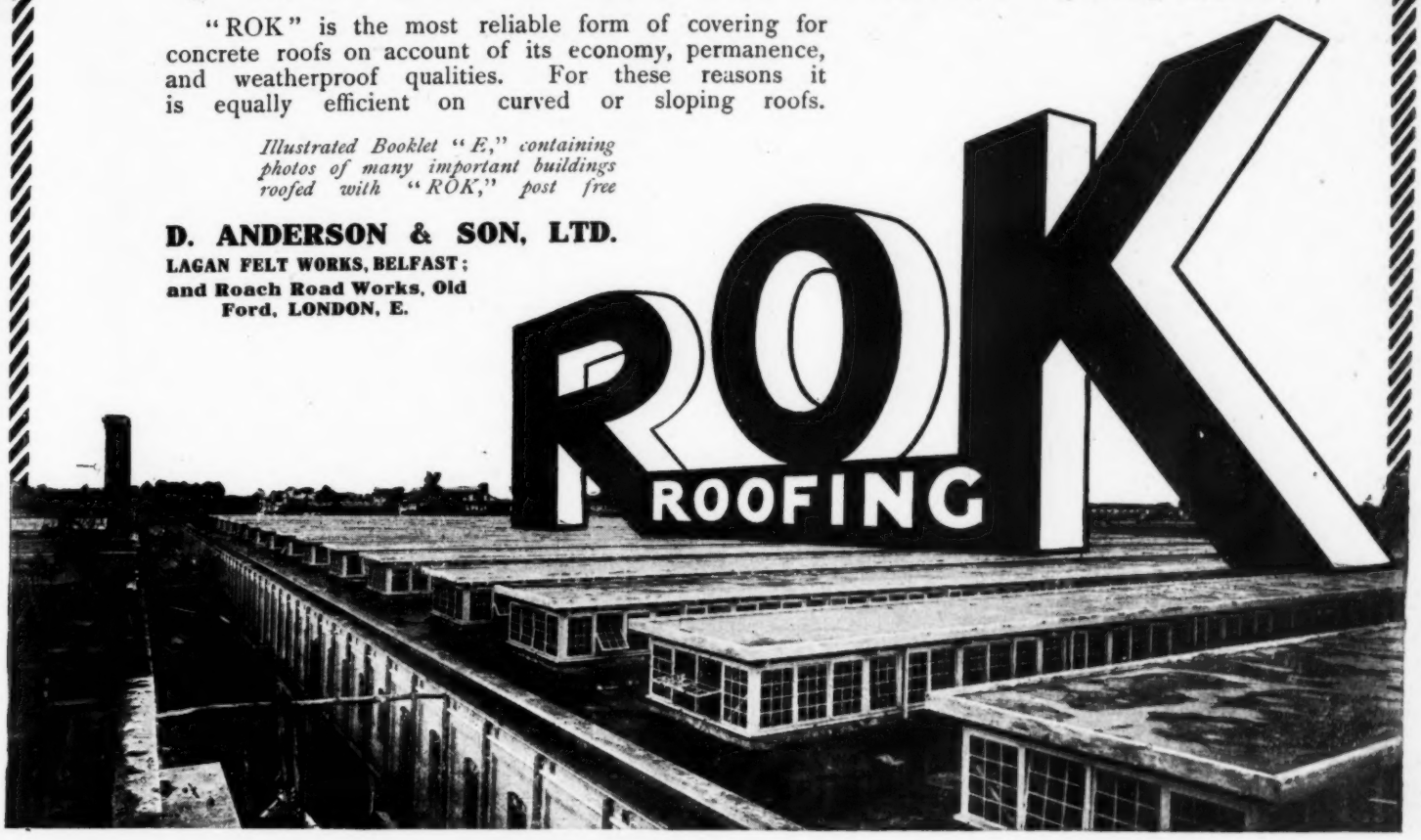

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THE BUILDING TRADE.

USE OF LEAD IN THE PAINTING OF BUILDINGS.

MR. J. D. CRACE took the chair on Tuesday last week at the Royal Society of Arts, Adelphi, at a meeting of the Incorporated Institute of British Decorators, when a paper prepared by the late Mr. W. G. Sutherland on "Some Aspects of the Recent Inquiry into the Use of Lead in the Painting of Buildings" was read by Mr. A. G. White.

The Chairman referred to the distressing death of Mr. Sutherland, but the family had expressed the wish that the work he had done in writing the paper should not be lost, and accordingly Mr. White had consented to read it.

Mr. Sutherland's paper first dealt with the history of the Departmental Committee which was appointed by Mr. Churchill in 1911 "to investigate the danger attendant on the use of paints containing lead to the health of persons engaged in painting buildings, and to consider and report what should be done to obviate or reduce the danger." The author sat on the Committee, having been nominated by the National Association of Master House Painters and Decorators of England and Wales, but that nomination was entirely unfettered by any conditions. The Committee examined 118 witnesses and 23,000 questions were put. He felt that the Committee would have been strengthened by the presence on it of an engineer, an architect, a chemist, and a representative of the white lead corroders. No comparative experiments were made of the nature of lead and zinc paints, and indeed no experiments were made at all by the Committee other than those by Dr. Dobbie, which were directed to verify or disprove the volatilisation of lead from drying paints. One must give credit to the humanitarian promptings which lay behind all that the questions and regulations foreshadowed, which in their effect on the trade would render it impossible to conduct painting operations with white lead paints. The author felt that they revealed a determination to put an end to the use of white lead, and he complained that the Committee had not obeyed their instruction "to consider and report what should be done to obviate or reduce the danger." Had the Committee sat before the inquiry made into the use of white lead in pottery, he felt sure the question would have been approached from a different point of view; but following as it did this important investigation it was almost inevitably coloured by the experiences of the first Committee. This was seen reflected in many of the questions put to the witnesses as to the use of fans, exhaust appliances for carrying away the dust, and a number of questions quite pertinent to factory and workshop experience, but foreign to the nature and character of house painting operations. Dr. T. M. Legge, of the Home Office, the first witness, laid down the proposition that unless they could go to the fountain head of the mischief and stop the dust they were not going to secure much improvement by all the cleanliness in the world. This was a sweeping conclusion, but it was quite justified by the medical evidence submitted. He (the author) contended that if the source of this dust danger could be removed by the abolition of the cause of it, *i.e.*, the dry rubbing down of paint, surely it was worth while endeavouring to conserve the use of so valuable a material as white lead by first trying what the prohibition of dry rubbing down would effect. The crux of the problem lay at the point of sandpapering between coats; and could it be dispensed with? He regarded the abolition of sandpapering in painting operations as an inconvenience rather than an impossibility, which did not present an insuperable difficulty to the master painter, and one which he believed use would reduce to its proper dimensions. The investigation developed a new tribunal of paint standardisation. It was not a standard developed as the result of the investigation of a body of scientists whose experiments had been carefully tabulated and controlled, and it did not even represent the accumulated experience of a large body of men engaged in painting operations of all kinds and varieties over a long period of years. It was just the *ipse dixit* of a Government official who had bought paint and found it satisfied his requirements, which was placed in the very forefront in the examination of witnesses as settling the question of white lead. Further, it had no hygienic value, for the witness told the Committee that they gave no attention to the health of the workers. He ventured to say that such large and far-reaching conclusions were never before founded on such meagre premises. A cardinal defect in the inquiry was the failure to distinguish between impersonal and basic materials and proprietary and compounded paints. The failure to so discriminate must be sought in the weight attached by the Committee to the testimony tendered by the Office of Works. This evidence was accepted as the final word on the subject, to question which was taken as displaying an ignorance of modern research and was a departure from the orthodox faith. Every witness, foreign or native, scientific or practical, was confronted with it as representing a wholly satisfactory solution of the problem, the efficiency of which was beyond question. The author dealt with the different classes of witnesses called, and pointed out that the unanimity of the great majority of master painters in favour of white lead was remarkable. Without prejudging the merits of other white pigments it was safe to say that the master painter's preference for white lead as a pigment was founded on his experience and on that alone. Out of the inquiry had come the supreme result that the great source of lead poisoning was to be found in the dust, and if the trade was thoroughly notified of it they might anticipate a change in procedure that met the danger. The painter, speaking strictly in a specific sense, had no financial interest in white lead, but when he mixed his paint with it he knew what he was handling and knew the constituents of his paint and could ensure them being good. Above all, with it he could protect his reputation as a craftsman.

In the discussion which followed,

Mr. A. S. Jennings said he believed the Committee's recommendations made no distinction between the use of white lead for inside and outside work, and it might be that if the report was acted upon white lead might be allowed for outside work. As apparently the great danger arose from dry rubbing down, he took it that the most serious part of the work was that done inside. He suggested also that the glass paper used for rubbing down might be dampened by turpentine, and knew that this had been done with advantage. There seemed to be an opinion that a single pigment in a paint had certain virtues and that a mixed paint made with combinations of pigments must necessarily be inferior. He had never been able to understand how that idea arose, and could bring abundance of evidence to show that paint made with an admixture of pigments was superior to that made with a single pigment. Paint manufacturers invariably used an admixture of pigments, and the practical painter used an admixture every day of his life. Most master decorators were in the position of having used white lead for many years with considerable success, but as a rule had very little experience of the use of zinc oxide or other leadless paints. They may have used it without particular care on a few jobs, and its failure had prejudiced their opinion in after life.

The Chairman remarked that in the use of the term mixed paint it was not a question of using dryers or colouring matter. It was the mixture of the actual basic material and not merely small percentages.

Mr. Hindley said most decorators would say that white lead had been the backbone of the trade, but he considered the decorating business had been oppressed by the necessity to use white lead, and all their efforts with pure colours and for getting clear, clean decoration had been more or less neutralised by the necessity for its use. He considered that decorators could use much more interesting materials, but white lead was a thing architects found easy to specify. They did not want always to be painting with white as a basis for everything, and he was perfectly certain that excellent substitutes could be found and were being used by decorators. Speaking in general terms, he had never noticed that painters were unhealthy men.

The Chairman said he could endorse what Mr. Hindley said as to painters as a class not being unhealthy men. The statistics put before the Committee as to the health of painters covered a period of ten years. The number of operative painters employed in the country was roughly 150,000, and the deaths from lead poisoning were rather less than one in 5,000, which was not a percentage to take alarm about, especially as the scientific witnesses pointed out that some of the deaths were independent of lead, and some were preventable. The point which the Committee persistently harked back to with every witness was that for four years H.M. Office of Works had used only leadless paint. It was a little embarrassing, however, when someone pointed out that the Office bought 5 tons of lead paint in one year. The explanation was that it must have been used for setting window frames. When the question was put to the Office of Works witness as to whether the leadless paint used by them had affected the health of the men they said they knew nothing about that as it was not their concern. Mr. Crace read a number of extracts from letters by foreign scientific witnesses, who complained that they had no chance of giving the evidence they came prepared to give, but were asked questions about which they did not profess to have knowledge. One writer characterised the proceedings of the Committee as Gilbertian. What he (the Chairman) felt as a witness was that the Committee did not go the right way to work to get the facts. The impression on the Committee seemed to be that the Office of Works had used leadless paint which had answered their purpose, and that that was quite sufficient reason for doing away with white lead.

Mr. W. Stewart Greene asked why if zinc and zinc white and oxide were so good they did not cover the roofs of houses with zinc instead of lead.

Replying to a vote of thanks, Mr. White said he gave evidence before the Committee, and his experience was the same as that of the Chairman.

Mr. Dakin thought there would be many decorators ready to support a movement to bring to the notice of the Committee that much evidence could have been given which was not included in the questions put. He suggested that the meeting should forward a protest.

The Chairman pointed out that the Committee was dissolved. He imagined that all they could do was to address themselves to the Home Office if any action was taken. In the present state of affairs the Home Office was not likely to deal with paint.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council: B.C. for Borough Council; and P.C. for Parish Council.

ALDERSHOT.—Plans passed:—Bathroom and reconstruction of buildings at rear of 91, High-street, for Mr. G. W. Chandler; alteration to premises, Wellington-street, for Messrs. Boots.

Birkenhead.—The T.C. have decided to apply to the L.G.B. for sanction to borrow £68,500 for a housing scheme on the Gilbrook Estate, which is the property of the Corporation. It is arranged to erect ten blocks containing sixty-four houses, seven containing forty, ten containing sixty, and seven blocks of flats containing 120 separate dwellings, and two blocks containing fifteen shops. On the ground floor there will be a living-room 13 ft. by 11 ft. 3 in., scullery, bathroom, food store, porch to front entrance; and on the first floor three bedrooms. The

* See also our list of Competitions, Contracts, etc., on page 555.

frontage to each house is 17 ft. 6 in., and the average depth, including yard and small garden plot in front, 57 ft. 6 in. Each block of houses will be supplied with hot water, and playgrounds provided for boys and girls.

Birmingham.—The Tame and Rea District Drainage Board have agreed to sell 71¼ acres of land at Bromford to the Dunlop Rubber Company for the erection of works.

Bournemouth. — Plans passed:—Additions, Manor Lodge, Southern-road, Mr. E. J. Mills; additions, church, Muscliff-road, Mr. W. O. Hutchinson; additions to house, Milton-road, Messrs. Wallace Jones & Sons; motor-house, Upnaghur, Beechwood-avenue, Mrs. Cooke; Easton Glen, St. Peter's-road, Messrs. Plummer Roddis, Ltd.; house, Firbank-road, Mr. W. Witt; garage, Palmerston-road, Messrs. Hendy Bros.; motor garage, Portman-crescent, Dr. Lindsey; house, Queen's Park-avenue, Mr. E. G. Evans; house, corner Firs Glen and Woods View-roads, Mr. H. Moores; house, Court-road, Charminster Estate, Mr. H. Marshall; house, Coronation-avenue, Mr. A. Vine; alterations, Mentone, Queen's-road, Mr. O. Carter; additions to premises, corner Shelbourne and Holdenhurst roads, Messrs. Marston's Dolphin Brewery Company; additions, Argyll House, corner Hawkwood and Sea roads, the Committee of the Gordon Boys' Home; house, Dunbar-road, Mr. E. A. Insley; house, Hill Brow-road, Mr. F. Pond; two houses and shops and lock-up shop, corner Charminster and Maxwell roads, Mr. W. Moore.

Branston.—The L.G.B. has held an inquiry with respect to an application by the R.D.C. for sanction to borrow £3,800 for sewage works for the parish of Boultham.

Brighouse.—The U.D.C. are seeking to acquire 5,820 sq. yds. of land in Crowtrees-lane and Carr Green-lane for the purpose of constructing a new 40 ft. road parallel to the existing Crowtrees-lane; for the provision of an ornamental plantation, 1,167 sq. yds. in area, between the new road and Crowtrees-lane; and for the widening of Carr Green-lane from 30 ft. to 36 ft.

Bristol.—An application from the Anglo-American Oil Company to rent 3 acres of land at the Royal Edward Dock in connection with the extension of their business has been approved by the Docks Committee.

Buxton.—House at Wigwell for Mr. F. R. Griggs.

Castleford.—Extension of chemical works for Messrs. Hickson & Partners; two houses in Leake-street for Mr. Thompson.

Chard.—The T.C. have decided to have the Corn Exchange reroofed.

Chesham.—Plans have been passed by the U.D.C. for a factory for Mr. R. Preston.

Chippenham.—Plans of a cottage for Mr. Greenman (Box) and of a workroom at Henley, Corsham, for Messrs. J. Davis & Co., have been approved by the R.D.C. Messrs. T. P. Pocock & Co. are making preparations for the rebuilding of their factory, which was recently burned down.

Coventry. — The application of the Housing Committee for sanction to the raising of the money required for the completion of the Leicester-street rehousing scheme is still under consideration by the Treasury. The T.C. have resolved to press the Treasury for an early decision, in view of the urgent need for additional housing accommodation in Coventry at the present time. Plans passed by R.D.C.:—Mr. T. F. Tickner, for extensions to factory, Folly-lane, for the Hillman Motor Company, Ltd., and for a garage, messrooms, and lodge in Holbrooks-lane for Messrs. White & Poppe, Ltd.

Cuba.—An expenditure of about £17,470 has been authorised on sanitary and other improvement works in the workmen's quarter in the district of Marianao, near Havana. This sum is to be allotted for the following:—Sewerage system, reservoir, and water-distributing system, £10,270; building of a school, fire-station, etc., £5,140; street paving and improvement works, £2,060. Tenders will be invited for the carrying out of these works.

Dewsbury.—Plans passed:—Trustees of Hanging Heaton Working Men's Club and Institute, new club, High-street, Hanging Heaton, Dewsbury; Messrs. S. Lyles, Sons, & Co., Ltd., extension of Jilling Ing Mills, Earlsheaton; Mr. Harry Firth, house corner of Whitley-road and Falhouse-lane, Grange Moor; Messrs. Charles Bailey & Sons, offices and store, Savile Town Iron Works, Mill-street East; Mr. Tom Kilner, conversion of shop into cottage, Navigation-street, Thornhill Lees; Mr. D. H. Lumb, additions to shop Huddersfield-road, Ravensthorpe; Messrs. James Smith & Sons, alterations to Café, Church-street; Messrs. Wilman Bros., covering Dewsbury Beck and enclosure of yard, Bradford-road; and Savile Estate, extension of South-street, Savile Town.

Dundee.—Additions to premises in Caldrum-street for Mr. J. R. Miller; alterations and additions to factory in Murraygate for Mr. J. Chapman's trustees; and alterations to houses in Watt-street for Mr. Murray.

Ely.—Plans passed by U.D.C.:—Dwelling-house, Cambridge-road, for Mr. H. Downie; shop showroom, warehouse, etc., Ely Co-operative Society; alterations to St. Awdrey's, Dr. Beckett.

Erith.—The London Glass Company is proposing to erect a factory between Dartford Creek and Crayford Creek.

Evesham.—The Joint Hospital Board has received the sanction of the L.G.B. to a loan of £1,000 for extensions and alterations to the administrative block. Sketch plans have been lodged with the U.D.C. for new premises in Bridge-street for Messrs. Boots, Ltd. Mr. H. E. Dicks is the architect.

Falkirk.—The School Board have decided to make application for sanction to raise a loan for school alterations.

Finchley.—Plans passed by U.D.C.:—Six houses, Queen's-avenue, west side, for Mr. F. G. Huggins; one house, Hendon-lane, for Mr. J. F. Webb; four houses, Addison-way, north side, for Oakwood Tenants, Ltd.; two houses, Dollis-avenue, east side, for Mr. A. Melenesky; eight houses, Addison-way, south side, for Oakwood Tenants, Ltd.; addition, High-street, North Finchley, for Mrs. Griffiths; one road and sewers, Berrymead-avenue, between East End-road and Briarfield-avenue, for Mr. E. C. Arden; four houses, Lansdowne-road, for Messrs. Parks & Holland; one house and garage, Finchley-way, for Mr. F. W. Walker.

Foleshill.—It was reported at the last meeting of the R.D.C. that forty houses were in course of erection at Bedworth and Foleshill, that five streets were being laid out, that four public-houses were being rebuilt, and that twenty-seven workmen's dwellings were being built by the Council.

Gnosall.—The L.G.B. have sanctioned a loan to the Staffordshire E.C. for the purchase of a site for new school.

Godalming.—The T.C. have decided to make application to the L.G.B. for sanction to borrow £2,830 for making two new boreholes, one at Ockford and the other at the Borough-road source of supply, for extending mains and for improving the chlorination system now in operation in connection with the Borough-road source.

Gravesend.—Plans passed by T.C.:—By Mr. A. G. Smith, for converting No. 141, Milton-road, into a motor garage for Mr. Baxter; by Mr. E. J. Bennett, for four houses at Holly Bush-road for Messrs. Towe & Toulson; by Mr. A. G. Smith for alterations to No. 1, Berkley-crescent, for Mr. J. Baxter.

Haltwhistle.—Seven houses at Flowers Close for Mr. W. Johnson, Henshaw.

Heanor.—Messrs. I. & R. Morley have acquired a large area of land in Derby-road for an extension of their premises, which it is estimated will cost over £11,000.

Leyland.—Plans of two pairs of cottages in Goulding's-avenue for Mr. George Gregson have been approved by the U.D.C.

London.—Messrs. J. Lyons & Co. have acquired a site contiguous to the Maison Lyons in Oxford-street, on which premises will be erected in due course. Messrs. Meggeson propose building a new factory in Llewellyn-grove, Bermondsey. A movement is taking place among English members of the Roman Catholic Church to complete the chapel dedicated to St. George and the English Martyrs in the Westminster Cathedral, which is at present in an unfinished condition, in memory of the Catholic soldiers who fall in the war.

Lydd.—Plans approved for the alteration and addition of Mr. Smithers' house in Coronation-square and an addition to Mr. T. W. Paine's house at Sydney-villa.

Malmesbury.—Plans for the erection of two cottages at Brokenborough for Lord Suffolk have been approved.

Manchester.—It is proposed to erect a new episcopal throne or seat in the Cathedral as a memorial to Bishop Moorhouse.

Newcastle-under-Lyme.—The Staffordshire E.C. have approved a plan of improvements at the High School, comprising the installation of a low-pressure hot-water heating apparatus, the provision of hot-water service, the improvement of the ventilation, reconstruction of boys' bath-room, etc.

Northwich.—Four houses in Bond-street for Mr. S. Appleton; two houses in Queen's Gate for Mr. E. W. Bostock.

Radstock.—Plans passed for two houses at Round-hill. Mr. A. Coles, Peasedown, architect.

Reading.—The T.C. have decided to employ an architect to prepare plans, sections, specifications, and an estimate of the cost of the works necessary to provide the additional accommodation which will be required at Reading School when the school is combined with the Kendrick Boys' School.

Redruth.—Plans passed by U.D.C.:—For two houses proposed to be built at South King-street for Messrs. J. Andrew & Son.

Sheerness.—An inquiry has been held by the L.G.B. into an application by the U.D.C. for sanction to borrow £5,000 for the enlargement of the refuse destructor.

Sheffield.—Mrs. Jeffcock has given £3,000 towards a fund for building a new church at Shiregreen, a site for which has already been acquired.

Stratford-on-Avon.—Six houses in Loxley-lane for Mr. Whateley and two cottages in Banbury-road for the Rev. Mr. Fortescue.

Tamworth.—The plans of the Managers of St. John's R.C. School for the provision of new school buildings to accommodate 128 older (mixed) children and sixty-four infants, in five rooms, on a fresh site, have been forwarded to the Board of Education for approval.

Tipton.—The U.D.C. have resolved to proceed with a scheme for reconstructing four of the old retorts at the Gasworks.

Todmorden.—New offices at Carrfield Mill for Messrs. Crabtree & Farrar, Ltd.; conveniences at Spring Mill, Springside, for Mr. T. H. Mitchell; warehouse near Nellcote, Todmorden, for Mr. S. Clegg; alterations to the district bank for the Manchester and Liverpool District Banking Company, Ltd.

Tyldesley.—Rebuilding of Royal Oak Inn for Messrs. J. Sumner & Co.; extension of ironworks for Messrs. J. Grundy, Ltd.

Wallsend.—The T.C. has passed a block plan submitted by Wallsend and Willington Park and Building Land Syndicate, Ltd., of building sites bounded on the south by Archer-street, on the north by the new cemetery, on the east by a proposed new road 20 ft. wide, and on the west by a new road to the cemetery.

Wigton.—Plans have been passed for a new picture house off Meeting House-lane for the proprietor of the Electric Picture Palace.

Witham.—Mr. Pinkham has informed the U.D.C. that he intends to build property in the Hatfield-road in the near future, and the Surveyor has been instructed to prepare an estimate for an extension of the sewer.

Woolwich.—Progress is being made with the Government housing scheme at Woolwich, and the local authority has sanctioned plans for 360 houses to be erected on a site of 30 acres.

Wrexham.—It is understood that the L.G.B. has given authority to the R.D.C. to prepare a town-planning scheme under the Housing and Town-Planning Act, 1909, in respect of an area of about 1,635 acres, situate in the townships of Broughton, Esclusham Below, Bersham, and Erthig, in the rural district.

Yeovil.—The R.D.C. have passed plans from Lord Fortman's agent (Mr. Vernon) for the conversion of an old factory at Hazelbury Plucknett into a pair of cottages.

GENERAL BUILDING NEWS.

BOURNE ISOLATION HOSPITAL.

The new block of buildings forming the isolation hospital for the Bourne Rural District have recently been opened. The hospital is situated on the South-road, Bourne. The buildings have been erected from plans prepared by Mr. Thos. Lake, the Council's Surveyor, and the cost, exclusive of the furnishing but including the site, has exceeded £5,000. The general contractors for the work were Messrs. Thornhill Brothers, of Lincoln. The block consists of a lodgekeeper's house, a house for the matron and nurses, together with a store for all the hospital requisites. Behind the administrative block are the fever wards. The main building for this purpose contains two large wards (male and female). Each ward is well warmed, and has proper sanitary arrangements and bath. To the north of the main fever wards is another block of buildings containing four observation wards. At the extreme east of the site is a further block of buildings, which include a mortuary, an ambulance shed, a laundry, a disinfector, and a gas plant. The water supply is from an artesian bore sunk on the site, this work being done by Mr. J. E. Noble, of Thurlby. The buildings are all lighted by a system of Cox's air gas.

TRADE NEWS.

Boyle's latest patent "air-pump" ventilator has been applied to the Calvinistic Methodist Church, Garndiffaith, Mon.

The Cherry Tree Machine Company, Ltd., laundry engineers, Blackburn, Eng., are supplying one of their latest type 72-in. by 18-in. Decoudin ironing machines to the Union Workhouse, Newbury, Berks.

The New Hospital, Aberavon, is being supplied with Shorland's warm-air ventilating patent Manchester stoves with descending smoke flues by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

JAMES SMITH (NEWARK), LTD. (140,438). Registered May 22. To acquire business of timber merchants, builders, and contractors, carried on as James Smith, at Newark-on-Trent, Notts, and to enter into an agreement. Also to carry on business of brick and tile manufacturers, etc. Nominal capital, £13,000 in £1 shares.

BOEKBINDER & SONS (1915), LTD. (140,444). Registered May 25. To acquire and carry on the business of builders, contractors, etc., carried on by Boekbinder & Sons, Ltd., at Crown-place, Kentish Town. Also business of dealers in lime, bricks, timber, etc. Nominal capital, £2,000 in 1,900 Cumulative Preference shares of £1 each and 2,000 Ordinary of 1s. each.

SICILIAN MARBLE COMPANY, LTD. (140,478). To carry on the business of dealers in, manufacturers and workers of, marble, granite, slate, onyx, and every other kind of stone, and contractors, builders, shipowners, brokers, etc. Nominal capital, £15,000 in 10,000 £1 Ordinary shares and 5,000 £1 Preference shares.

BRITISH DRILL AND ENGINEERING COMPANY, LTD. (140,497), 8, Waterloo-place, London. Registered May 29. To acquire by purchase or otherwise any patent rights, brevets, licences, etc., also to carry on business as ironfounders, mechanical engineers, manufacturers of mining, agricultural, and other machinery, builders, metal-workers, etc. Nominal capital, £5,000 in 4,000 "A" £1 shares and 4,000 "B" 5s. shares.

TRADE CATALOGUE.

The Carron Company, whose works are at Carron, in Stirlingshire, and London showrooms in Berners-street, despite their 150 years of existence, show no signs of the feebleness

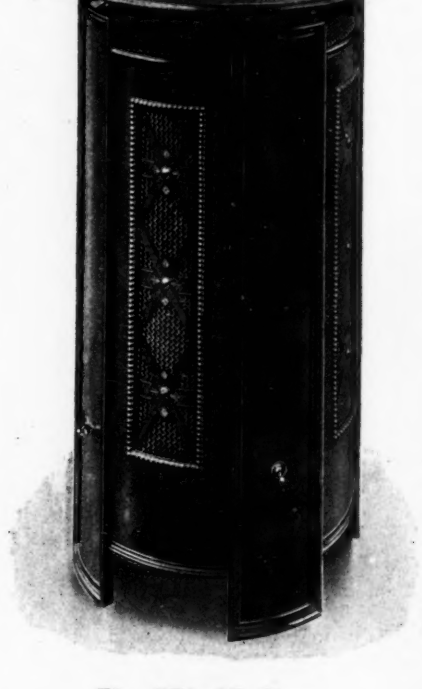
RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur :—

——	Masons.	Brick-layers.	Car-penters, Joiners.	Plas-terers.	Slaters.	Plum-bers.	Painters.	Masons' La-bourers.	Brick-layers' La-bourers.	Plas-terers' La-bourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9½	9½	—	9	8	6½	6½	6½
Accrington	10	9½	9½	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10	10½	10	8½	10	9	6½	6½	6½
Ashton-under-Lyne	10½	10½	10	10½	9	10	9	6	6	7
Barnsley	9½	9½	9½	9½	9	9	8½	7	7	7
Barrow-in-Furness..	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	5½	5½	5½
Bedford	8	8	8	8½	8	9	6½	5	5	5½
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	11	11	11	11	10½	11¼	9½	8	8	8
Bishop Auckland..	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	10	9½	10	9½	6½	7½	7½
Blackpool	10½	9½	9½	9½	8½	9	8½	6	6	6
Bolton	10	10½	10	10½	10	10	9½	6-7	6-7	6-7
Bournemouth	8½	8½	8½	8½	8½	8½	8	6	6	6
Bradford	10	10	9½	9½	9½	10	8½	7	7	7
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	8½	8½	8½	—	8	7	6	6	6
Bristol	10½	10½	10½	10½	—	10½	9½	7½	7½	7½
Burnley	10	9½	9½	9½	8	9	9½	7	7	7
Burton-on-Trent ..	9	9	9	9½	9	9	8½	6½	6½	6½
Bury	10½	10½	10	9	9½	10	9	6	6	6
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½-9	6½	5	5	5
Cardiff	10	10	10	10	10	10	9	7	7	7
Chatham	8	9	9	9	9	9	7½	6	6	6
Chelmsford	8	7½	8½	9	—	7½	6½	5	5	6½
Cheltenham	8¾	8¾	8¾	8¾	—	8¾	8¼	6	6	6
Chester	9½	10	9½	9½	9¼	9¾	8½	5½	6½-6½	5-5½
Chesterfield	9	9	9	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	10½	10½	10½	10½	9½	10½	9¼	7½	7½	7½
Crewe	7	8	7½	9	8	8	7½	5	5½	6
Darlington	9½	9½	9½	10	10	9	8½	6½	6½	6½
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9½	9½	9	9	9	9	8	6½	6½	7
Dudley	8½	8½	9	8½	8½	8	7½	5½	5½	6
Durham	9	9	9½	9	10	9	8½	6	6	6½
East Glamorgan and Monmouthshire Valleys	9½	9½	9½	9½	—	—	8½	6½	6½	6½
Exeter	8	8½	8	8½	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7-7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	5½	5½	5½
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9½	9	8	8½	7	7	7
Great Yarmouth ..	8	8	8	—	8	8	6½	5	5	—
Halifax	10	10	9	8½	8½	9	8½	7	7	7
Harrogate	9½	9½	9	9	8	9	8½	6½	6½	6½
Hartlepools	9	10	9½	10	10	10	9	7	7	7½
Hastings	8½	8	8	8½	8	8	7	6½	5½	6½
Hereford	8	8	7½	8½	8	7	7	5½	5½	5½
Huddersfield	10	9½	9½	9½	10	9	8½	7	7	7
Hull	10½	10	10	10	10	10	8½	7½	7½	7½
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	5½	6	6
Leamington Spa ..	9	9	9	8½	9	9	8	6	6	6
Leeds	10	10	10	10	9	10	8½	7½	7½	7½
Leicester	9½	9½	10	10½	10	9½	9	7	7	7½
Lincoln	9	8½	8½	9	8½	8½	8	6	5½	6½
Liverpool	11	11	11	11	10½	11	9½	7	7	7
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough	9	8½	8½	9	9	8½	7½	5½	5½	6½
Luton	9½	8½	8½	8½	9	8½	7½	5½	5½	5½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	10	10½	10½	11	10	10	9½	6½	6½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil	9½	9½	9½	9½	8½	9	8	6½	6½	6½
Middlesbrough	9	10	9½	10	10	10	8½	7	7	7½
Newcastle-on-Tyne.	10½	10½	10½	10½	10	10	9	7½	7½	7½
Newport, Mon.	10	10	10	10	8½	10	8½	7	7	7
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8	8½	8½	8½	8	8½	7½	6	6	6
Nottingham	10	10	10	10½	9½	10	9	7½	7½	8
Oldham	10½	10½	10½	10	9	10	9½	7	7	7½
Oxford	9½	9	9	9	8	9	8	6½	6½	6½
Plymouth	9	9	9	9	9	9	8	6½	6½	6½
Pontypridd	9½	9	9	9½	9	9	8	6½	6½	6½
Portsmouth	9½	9½	9½	9½	—	8½	7½	7	7	7
Preston	10½	10½	10	9½	9½	10	9½	5½	6	6½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10½	10½	10	10	8½	9½	9	7	7	7½
Rochester	8	9	9	9	9	8½	7½	6	6	6
Rugby	9½	9½	9½	9½	8	9½	8½	6	6	6
St. Albans	9	9	9	9-10	9	9-10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6	6
Scarborough	9	9½	9	8½	8	9	8	7	7	7
Sheffield	10½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Shrewsbury	8½	8½	8½	9½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6½
Southend-on-Sea ..	9	9	9	9	P'cework	9	7	6	6	6
Southport	10	10	9½	9½	9½	9½	9½	6½	6½	6½
South Shields	10	10½	10½	10½	10	8½	9	7½	7½	7½
Stockport	10½	10	10	10½	9	10	8½	6	6½-7	7½
Stockton-on-Tees ..	9	10	9½	10	10	10	9	7	7	7½
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	10	10½	10	10	10	9	9	6½	6½	7
Swansea	9½	9½	9½	9½	8½	9	9	6½	6½	6½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	6
Wakefield	9½	9½	9	9½	8½	9	8	7	7	7
Walsall	9½	9	9	9	8½	9	8	6½	6½	6½
Warrington	8½	9½	9½	10	8½	9½	8½	5½-6	6	6-6½
West Bromwich ..	10	10	9½	10½	—	9	8	7	7	7
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton ..	9½	9½	9½	10	8	10	8	6½	6½	6½
Worcester	8½	9	9	9	9	9	7½	6	6	6
York	9½	9½	9	9½	9½	9	8½	7	7	7

The masons' rate given is for bankers; fixers usually ½d. per hour extra.

and conservatism which are held to distinguish old age. They are among the first to adopt any new improvement and to carry it out with the artistic quality which can only be gained by a knowledge of the traditions of style. We now have before us their catalogue T.E., which gives full particulars of electric cooking and heating appliances of every description, from the immense kitchen plant used at the Royal Pavilion at Brighton to electric kettles and egg boilers, the cost of which is a matter of shillings. Perhaps the most pleasing designs are to be found among



The "Beryl" Stove.

the electric stoves, among which may be mentioned the Amethyst, 107; the Garnet and Diamond, 116 and 118; the Beryl, 120, a well-designed circular stove; while among electric fires we may mention the Kelso, 208, and Lindores, 216. Cooking by electricity, like cooking by gas, is labour and dirt saving, besides which it is found that meat cooked by electricity is more nutritious than if prepared by other methods, as the natural juices are retained and there is less loss in waste. Gas and electricity, as we have before pointed out, run each other very close, the chief difficulty with the latter being its cost, in many places a disadvantage, which is year by year lessened, though we can never hope to realise the advantages given abroad by free power of the nature given by Niagara. However, with electric current at 1d. a unit, which is a fair average cost, electric cooking is brought within the reach of almost all those who are attracted by its obvious advantages. It would be tedious and impossible to describe the excellent fittings shown without full illustrations, but we can say without hesitation that the purchaser of goods made by the company will be always sure of having the best quality workmanship and design obtainable.

PROTECTION OF BUILDINGS FROM AIRCRAFT.

In view of the recent visits to this country of hostile aircraft and the attendant damage caused by the incendiary type of bomb, we should like to call attention to the announcement appearing on one of our advertisement pages that Messrs. F. McNeill & Co., Ltd., of Bunhill-row, E.C., have protected many important buildings against air attack by the use of their Lion Brand of slag wool. They claim that a building protected by their special method is practically secure against damage by bombs. This is a claim which should be investigated by those responsible for the safe-keeping of hospitals, workhouses, and factories in which Government work is in progress, and by private owners of property, in view of the heavy charges in operation by insurance companies, to say nothing of the risk to life and limb.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, —; Contracts, iv., vi., viii.; Public Appointment, xx.; Auction Sales, xxii. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JUNE 14.—**Blaydon, etc.**—PAINTING.—Painting of following schools for the Durham C.C.:—Greenside, Blaydon Central, Whickham, Emmaville, Dunston, and Marley Hill. Specifications of Mr. I. G. Maguire, District Clerk, Dene Holme, Ryton-on-Tyne.

JUNE 14. — **Darlington.** — ALTERATIONS.—For alterations to premises in Priestgate for the Darlington Co-operative Society, Ltd. Quantities of the Secretary, at the offices, Priestgate, Darlington.

JUNE 14.—**Durham.**—PAINTING, ETC.—Painting and renovating of the following Council schools during the midsummer vacation:—Ushaw Moor Mixed and Infants', Cornsay Colliery Infants', Brandon Colliery Mixed and Infants', Sherburn Hill Infants', Sherburn Hill Girls', Gilesgate Moor Mixed and Infants', Littletown, Framwellgate Moor Boys', Girls', and Infants', and outside master's house; Esh Winning Mixed and Infants', Kimblesworth Mixed, Nettlesworth Infants', East Hedley Hope, and Hedley Hill. Specifications of Mr. Robert Barren, District Clerk, 19, New Elvet, Durham.

JUNE 14.—**Garforth.**—PAINTING, ETC.—Painting of Oulton-with-Woodlesford Council and Barwick-in-Elmet, Scholes, Council Schools; Templenewsam, Colton Council School—tar-spraying asphalt and pointing boundary wall; South Milford Council School—tar-spraying asphalt, for the West Riding C.C. Specifications from the Divisional Clerk, Garforth.

JUNE 14. — **Newbliss, etc.** — COTTAGES.—Erection for the Great Northern Railway Company (Ireland) of a gatekeeper's cottage between Newbliss and Clones, and one gatekeeper's cottage between Essexford and Carrickmacross. Forms of tender of Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street Terminus, Dublin. Deposit, £1 1s. each contract.

JUNE 14.—**Newlyn East.**—FARMHOUSE.—Erection of farmhouse at Goopwinnow, Newlyn East. Specification of Mr. A. J. Cornelius, architect, Truro.

JUNE 14. — **Normanton.**—PAINTING.—Painting exterior of thirty-eight houses in Haw Hill-view and the Council Chamber for the Normanton U.D.C. Specifications of Mr. A. Hartley, Council Offices, Normanton.

JUNE 14. — **Sawley.** — PAINTING.—Painting the iron bridge over the River Trent at Old Sawley for the Derbyshire C.C. Specification of Mr. J. W. Horton, County Surveyor, County Offices, Derby.

JUNE 14. — **West Suffolk.** — REPAIRS. — For repairs at the following schools for the West Suffolk E.C.:—Brockley, Fornham All Saints, Glemsford, Haverhill, Mildenhall Beck Row, Mildenhall Infants, Mildenhall West Row, Newmarket Exning, Walsham-le-Willows Infants, Whepstead. Specifications of Mr. A. A. Hunt, County Architect, 51, Abbeygate-street, Bury St. Edmunds.

JUNE 15.—**Carlisle.**—PAINTING, ETC.—Painting and other works required to be done at one of the elementary schools of the Carlisle E.C. Specification of Mr. Henry C. Marks, Surveyor, 36, Fisher-street, Carlisle. Deposit, 10s. 6d.

JUNE 15. — **Halifax.** — EXTENSION. — Various trades for extension of premises of the Halifax Equitable Benefit Building Society and Bank. Names to Messrs. Richard Horsfall & Son, architects, 22A, Commercial-street, Halifax.

JUNE 15. — **Huddersfield.** — PAINTING.—Limewashing of the interior of the Model Lodging-house, Chapel-hill. Quantities of Mr. K. F. Campbell, Borough Engineer, 1, Peel-street.

JUNE 15. — **Lanchester.**—PAINTING.—Painting outside of sanatorium at Malden Law, near Lanchester, for the Joint Hospital Board. Specification of Mr. G. T. Wilson, architect, 22, Durham-road, Bleckhill.

JUNE 15.—**Oldham.**—SHED.—Erection of a shed, 51 yds. by 50 yds., at Gateshead Mills, Delph, near Oldham. Quantities of Messrs. Joseph Berry & Sons, architects, 3, Market-place, Huddersfield.

JUNE 15. — **Stanley.** — PAINTING. — Painting following schools for the West Stanley Education Sub-committee of the Durham C.C.:—Hare Law, Annfield Plain, East Stanley Mixed, Greenland (three), Craghead, Greencroft Infants, Tanfield Lea. Specifications of Mr. E. G. Chatt, Front-street, Stanley.

JUNE 16. — **Sheffield.**—WHITEWASHING, ETC.—For whitewashing, colourwashing etc., at the Swallownest Hospital for the South Rotherham, Handsworth, and Kiveton Park District Joint Isolation Hospital Committee. Particulars of Messrs. Creswick & Son, 9, East-parade, Sheffield.

JUNE 17.—**Blaenavon.**—RENOVATIONS.—Renovations and additions, including reslating and cementing, at Bethlehem Congregational Church, Blaenavon, Mon. Specifications at Mr. J. D. Thomas', draper, Blaenavon.

JUNE 17.—**Darlington.**—PAINTING, ETC.—Painting and colouring Aycliffe Diamond Jubilee and Low Coniscliffe Council Schools for the Durham C.C. Specifications of Mr. Wm. E. Brown, District Clerk, 22, Milton-street, Darlington.

JUNE 17. — **Wigan.**—PAINTING, ETC.—Painting, colouring, limewashing, etc., required at the following schools:—Marylebone School; St. Mary's School; St. Patrick's School (Senior Boys', Senior Girls', and Junior Girls' Departments); St. John's School, Pemberton (Mixed Department); St. Mark's School; St. Paul's School, Goose Green (Girls' Department); also for limewashing, etc., at other schools. Specification of Mr. George H. Mockler, Director of Education, Education Offices, King-street, Wigan.

JUNE 18. — **Bootle.**—ALTERATIONS.—Alterations to existing lavatories, etc., at the Secondary School for Boys, Balliol-road, Bootle. Specifications at the Borough Engineer's Office, Town Hall.

JUNE 18. — **Dewsbury.** — SHOP.—Erection of a shop in Northgate, Dewsbury. Particulars of Messrs. Holtom & Fox, architects, Corporation-street Dewsbury.

JUNE 19. — **Bristol.** — PLASTERING, ETC.—(1) Plastering, painting, etc., Wards 27-28, 30-31, and 32-33, Eastville Institution; (2) painting, distempering, etc., officers' dining-room (No. 117), Stapleton Institution, for the Bristol B.G. Specification of Mr. J. J. Simpson, Clerk, St. Peter's Hospital, Bristol.

JUNE 19. — **Luddenden Foot.** — PAINTING.—Scraping and painting of the ironwork of the pipe bridges at Longbottom Mill and Fair Lee Holme, Luddenden Foot, for the Luddenden Foot Joint Sewerage Board. Particulars from the Manager, High Royd, Sowerby Bridge.

JUNE 21. — **Ballymaley.** — SANATORIUM.—Erection of new sanatorium at Ballymaley, Ennis, for the Co. Clare Committee. Specification of Mr. W. H. Allen, The Terrace, Ennis. Deposit, £3 3s.

JUNE 21. — **Leeds.** — BUILDING.—Erection of a two-story building in Grape-street, Hunslet, for the Leeds Electric Lighting Department. Quantities of Mr. C. Nelson Hefford, Manager, 1, Whitehall-road, Leeds.

JUNE 21.—**Maesteg.**—WALL, ETC.—Construction of a masonry retaining wall, about 335 yds. in length, with carriageway and footway works and four-stall urinal, at Duffryn-road, Caerau, for the Maesteg U.D.C. Quantities of Mr. Samuel J. Harpur, Engineer to the Council, 32, Commercial-street, Maesteg. Deposit, £1 1s.

JUNE 22. — **Jarrow.** — PAINTING.—Painting, colouring, etc., at the St. Bede's Senior Girls' School, Grant-street, during the summer vacation. Specification of Mr. H. M. Adam, Clerk of Works, at the Higher Grade School, Jarrow.

JUNE 23. — **Leeds.** — PAINTING, ETC.—Painting and cleaning of the schools during the midsummer vacation for the E.C. Specifications at the Education Department (Architect's Section), Calverley-street, Leeds.

JUNE 23.—**Paignton.**—BAKERY.—Erection of a bakery at Paignton for the Paignton Co-operative Society, Ltd. Quantities of the architect, Mr. Fred. Wm. Vanstone, Palace-chambers, Paignton.

* JUNE 24. — **Wandsworth.**—CHIMNEY.—The Wandsworth Guardians invite tenders for erection of a small chimney.

* JUNE 25. — **Folkestone and Rainham.**—REPAIRS.—The Kent E.C. invite tenders for repairs to two schools.

JUNE 25. — **Shotton Colliery, etc.** — RE-ERECTIONS. — Taking down, removing, re-erecting at Shotton Colliery, and making good where required the iron school with slated roof, situated at Easington Colliery; also, separately, for taking down, removing, and re-erecting at Crook, and making good where required, the iron school with corrugated-iron roof, also situated at Easington Colliery. Specification of the Clerk to the E.C., Shire Hall, Durham.

JUNE 28. — **Jarrow-on-Tyne.**—BRIDGE.—Construction of a bridge over Hill-street, Jarrow-on-Tyne, for the North-Eastern Railway Company. Quantities of Mr. C. F. Bengough, the Company's Engineer, at Forth Banks, Newcastle-on-Tyne.

* JUNE 28. — **Tonbridge.** — NEW POST-OFFICE, ETC.—The Commissioners of H.M. Works, etc., invite tenders for erection of a new post-office and telephone exchange.

JUNE 28. — **West Hartlepool.** — FOOTBRIDGE. — Construction of a footbridge at Cliff House Crossing, West Hartlepool, for the North-Eastern Railway Company. Quantities of Mr. C. F. Bengough, Company's Engineer at York.

* JUNE 29. — **Canning Town.** — LABOUR EXCHANGE. — The Commissioners of H.M. Works, etc., invite tenders for erection of a Labour Exchange.

* JUNE 29.—**Leyton.**—CLEANING, PAINTING, AND REPAIRS.—The Leyton U.D.C. invite tenders for cleaning, painting, and repairs at various schools.

* JUNE 30. — **Godalming.** — SANATORIUM.—The Metropolitan Asylums Board invite tenders for erection of a sanatorium.

* JUNE 30. — **Homerton.** — REPAIRS AND CLEANING. — The Metropolitan Asylums Board invite tenders for repairs and cleaning at the Fever Hospital.

NO DATE — **Fauldhouse.**—SHED.—Erection of shed at Fauldhouse. Particulars of Messrs. Andrew Motherwell, Ltd., Gorbals, Glasgow.

NO DATE. — **Holbeck.**—PAINTING.—Painting of Marshall Mills, Marshall-street, Holbeck, for Messrs. Daisy, Ltd., about 450 window frames, twenty-five doors, twenty-five fall-pipes. Particulars from Mr. Lawson, Marshall Mills, Holbeck.

NO DATE. — **Walby.**—HOUSE.—Joiner's, bricklayer's, and other work for proposed new house at Walby for Mrs. Thompson. Specifications of Messrs. Dixon & Mitchell, land agents, Devonshire-street.

FURNITURE, MATERIALS, etc.

JUNE 14.—**Westminster.**—MATERIALS.—Supply to the Westminster City Council of gas and hot-water fittings, shovels, picks, sewer implements, and edge tools. Forms of tender at the City Hall, Charing Cross-road, W.C.

JUNE 15.—**Aldershot.**—CEMENT.—Supply to the Aldershot U.D.C. of English Portland cement for one year. Specifications of Mr. Fred. C. Uren, District Surveyor, Municipal Buildings, Aldershot.

JUNE 15.—**London.**—MATERIALS.—Supply to the Metropolitan Asylums Board of builders', engineers', smiths', plumbers', and gasfittere' ironmongery and general stores for the ensuing twelve months. Forms of tender at the Office of the Board, Embankment, London, E.C.

JUNE 16. — **Atherton.**—MATERIALS.—Supply to the U.D.C of road, sewer, paving, and other materials, water and gas fittings, pipes, etc. Forms of tender of Mr. W. Garnett, Clerk, Town Hall, Atherton, near Manchester.

JUNE 16. — **Holborn.** — MATERIALS.—Supply to the Holborn Union of timber, engineers' work, ironmongery, gas fittings, etc. Forms of tender at 53, Clerkenwell-road, E.C.

JUNE 17.—**Ashford.**—MATERIALS.—Supply to the West London District Schools' Managers of builders' materials, timber, etc. Forms of tender of Mr. F. G. Beeching, Clerk to the Managers, Ashford, Middlesex.

JUNE 17. — **Southampton.** — FURNITURE, ETC.—Provision and erection of certain furniture and fittings at the new Portswood Library. Specifications at the Borough Engineer's Office.

JUNE 18.—**Guildford.**—GRANITE.—Supply to the Guildford R.D.C. of granite during one year. Forms of tender of the Surveyor, Mr. John Anstee, Council's Offices, Commercial-road, Guildford.

[Those with an asterisk (*) are advertised in this issue.]

FURNITURE, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JUNE 19.—**Aberaman.**—GREASE, ETC.—Supply to the Directors of the Fowell Duffryn Steam Coal Company, Ltd., of grease and oils. Forms of tender of the Stores Manager, Aberaman Offices, near Aberdare. Samples addressed to the Powell Duffryn Steam Coal Company, Ltd., Laboratory, Aberaman.

JULY 14. — **Australia.**—MATERIALS.—Supply to the Victorian Railway Commissioners of (1) 100 tons of white lead in oil; (2) 60,000 yellow flame arc carbons; (3) 11,880 ft. of bare stranded aluminium feeder cable, together with fittings; (4) about 125 tons of steel channel bars for cars and trucks. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

ENGINEERING, IRON, AND STEEL.

JUNE 14. — **Dumfries.** — BRIDGES.—Erection of two light traffic iron girder bridges over Scaur Water, near Glenwhargen and Folgowan, in the parish of Penpont, for the Dumfries C.C. Specifications of Mr. John S. Rankin, Road Surveyor, Waulkmill, Thornhill.

JUNE 14. — **Pollokshields.**—BRIDGE.—Renewal of bridge carrying main lines over Kinning Park Branch, near Pollokshields, for the Caledonian Railway Company. (Steelwork contract.) Specification at the office of the Company's Engineer, Buchanan-street Station, Glasgow. Deposit, £2 2s.

JUNE 14. — **Tipton.** — RETORTS.—Erection and supply of retorts, fire bricks, fire clay, silica goods, and all other necessary materials for the reconstruction of four beds of retorts at the Gasworks of the Tipton U.D.C. Particulars from Mr. William Prince, Engineer, Gasworks, Tipton.

JUNE 15. — **Macclesfield.**—TUBES, ETC.—Supply to the Gas Committee of wrought-iron lap-welded steam tubes and fittings. Conditions of Mr. J. E. Blundell, Engineer, Gasworks, Macclesfield.

JUNE 15.—**Stourbridge.**—EXHAUSTER.—Supply of exhauster for the Gas Department. Particulars of Mr. C. H. Webb, Engineer, Gasworks, Stourbridge.

JUNE 16. — **Manchester.**—DYNAMO.—Supply to the Manchester Union of one 40-kilowatt steam dynamo, erected complete at their Cottage Homes, Styal, near Manchester. Specifications of Mr. F. W. Page, Consulting Engineer, Clarendon-chambers, 14, St. Ann's-square, Manchester. Deposit, £2 2s.

JUNE 22. — **Australia.** — BRIDGE.—Supply of superstructure for bridge over Rocky Creek, Western Railway, for the Commissioner of the Queensland Government Railways, Brisbane. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JUNE 23. — **Keighley.** — PIPES, ETC.—Supply to the Keighley Corporation Gasworks of cast-iron pipes and other castings (for ordinary repairs and renewals only). Form of tender of Mr. W. Baillie, Engineer, Gas Offices, Cook-lane, Keighley.

JULY 3. — **New Zealand.**—METERS.—Supply of house service meters for two years to the Electrical Department of the Christchurch City Council. Specifications at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JULY 6. — **Australia.** — GIRDERS.—Supply of main girders for widening Glenelg-street Bridge for the Commissioner, Queensland. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JULY 14. — **Adelaide.** — GALVANISED WIRE.—Supply of 44 tons of galvanised-iron wire for the Deputy Postmaster-General, Adelaide. Specifications of the High Commissioner for the Commonwealth of Australia, 72, Victoria-street, S.W.

JULY 19. — **Sydney.**—METERS.—Supply of electric meters to the Sydney Municipal Council. Specifications at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

AUGUST 11.—**Melbourne.**—GENERATOR.—Supply to the City of Melbourne, Australia, of one 1,000 kw. direct current generator with field regulator and accessories, one liquid starter with accessories, together with one spare set of carbon brushes and one spare field coil for generator. Specification, etc., of Messrs. McIlwraith, McEacharn, & Co., Fpty., Ltd., Agents, Billiter-square-buildings, London, E.C. Charge, 5s.

SEPTEMBER 20. — **Spain.**—RAILWAY.—The Dirección General de Obras Públicas, Madrid, invites tenders for the construction and working, for a period of ninety-nine years, of the Granada to Motril section of the strategic railway from Torre del Mar to Zurgena. Cost of construction estimated at £1,206,000. Copy of *Gaceta de Madrid* may be seen at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

OCTOBER 29.—**Siam.**—STEEL VIADUCTS.—Supply of three steel viaducts for the Siamese Royal Railway Department. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

ROAD, SANITARY, AND WATER WORKS.

JUNE 14.—**Kentford.**—DRAIN.—Construction of a 9-in. stoneware pipe drain, 593 lin. yds. in length, in the main road, Kentford, for the West Suffolk C.C. Quantities of Mr. W. Lionel Jenkins, County Surveyor, Shire Hall, Bury St. Edmunds.

JUNE 14.—**Westminster.**—STREET WORKS.—For carrying out stoneware gulley construction and minor works of sewerage and drainage for three, six, or twelve months for the Westminster City Council. Specifications at the City Hall, Charing Cross-road, W.C.

JUNE 15. — **London.** — PAVING.—For following works of paving for the Corporation of London (Public Health Department):—Carriageways to be relaid with asphalt—Moor-lane (New Union-street to Fore-street); Long-lane (Aldersgate-street to Central Markets). Carriageways to be relaid with stone—Pudding-lane; Queenhithe. Footways to be relaid with asphalt—Basinghall-street (Guildhall-buildings to London-wall); Philip-lane; Fore-street, north side (Whitecross-street to Moorfields); London-wall, north side (Coleman-street to Moorgate-street); Back Gravel-lane, Stoney-lane; Houndsditch (portions only); St. Mary Axe (portion only); Jewry-street, east side (portion only); Doby-court, Upper Thames-street; St Paul's-churchyard, south side (adjacent to railings); Temple-avenue, north side; Westmoreland-buildings; Wood-street (Gresham-street to Addle-street); Ball-alley, Lombard-street. Specifications at the Engineer's Office, Guildhall, E.C.

JUNE 15. — **Manchester.** — EMBANKMENT. — Various works required to make embankment watertight at the Abergele Sanatorium for the Manchester Corporation. Specifications of the City Architect, Town Hall. Deposit, 10s. 6d.

JUNE 16.—**East Stow.**—WELL.—Construction of a bored well, trial pumping, and other works complete near Thorney Green, Stowupland, near Stowmarket, for the East Stow R.D.C. Specification, etc., of Messrs. John Taylor & Sons, civil engineers, Caxton House, Westminster. Deposit, £5.

JUNE 16. — **Prestwich.**—SEWER.—Construction of 129 yds. 9-in. sewer in Back Albion-place, Prestwich. Quantities of the Surveyor, Prestwich.

JUNE 18. — **Barcelona.** — SEWERAGE WORKS.—Carrying out of street drainage and sewerage works for the Municipality (estimated cost about £20,500). Copy of *Gaceta de Madrid*, containing particulars, at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

JUNE 18.—**Failsworth.**—SANITARY.—Alteration of ninety-three privy closets to water-closets within the Urban District of Failsworth. Specification of Mr. W. M. Shimmin, C.E., Engineer to the Council, Oldham-road, Failsworth.

JUNE 18.—**Uxbridge.**—SANITARY.—(1) Cleaning out cesspools and removing soil from earth closets, etc., at Moor Hall-cottages, Harefield, for twelve months; (2) removing soil from earth closets in the village and at Hill End, Harefield, for twelve months, for the Uxbridge R.D.C. Specifications from the Council's Inspector of Nuisances, Corn Exchange, Uxbridge.

JUNE 21. — **Blean.** — SEWERS.—Construction of about 1,176 yds. of 9-in. stoneware pipe sewers, manholes, and other works in connection with the sewering of parts of the parish of Whitstable-cum-Seasalter, near Whitstable, Kent, for the Blean R.D.C. Quantities of Mr. F. A. Ward, Engineer, "Roseneath," Eddington, near Herne Bay, Kent. Deposit, £2 2s.

JUNE 21.—**Motherwell.**—GAS MAINS.—Excavation for gas-main extensions for the Motherwell Corporation Gas Department. Specification of the Gas Engineer, Mill-road, Motherwell.

JUNE 22. — **Colchester.** — WATER TANK.—Construction of a reinforced concrete tank to hold 100,000 gallons of water at Severalls Asylum, Colchester, for the Committee of Visitors. Specification of the County Architect, Mr. G. Topham Forrest, No. 79, Duke-street, Chelmsford.

JUNE 28. — **Lanark.**—SEWERAGE WORKS.—Construction of sewerage purification works at Hairmyres Sanatorium and Work Colony for the County of Lanark (District of the Middle Ward). Specification of Mr. W. L. Douglass, District Engineer, District Offices, Hamilton. Deposit, £1.

NO DATE.—**Bury St. Edmunds.**—ROADS.—The West Suffolk C.C. invite tenders, in connection with the improvement of roads for military purposes, for the following:—(1) Haulage of material from railway stations (horse or mechanical); (2) haulage of material from gravpits (horse or mechanical); (3) daywork team labour; (4) hire of sleeping vans; (5) supply of glazed stoneware pipes. Mr. W. Lionel Jenkins, County Surveyor, Shire Hall, Bury St. Edmunds.

Auction Sales.

✱ JUNE 16.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

✱ JUNE 22.—**Canning Town.**—Messrs. Fuller, Horsey, Sons, & Cassell will sell by auction, on the premises, a quantity of building materials, plant, and timber.

✱ JUNE 28. — **Westminster.** — Mr. H. Butcher will sell by auction on the premises, the stock and plant of a builder's and black ironmonger.

[Those with an asterisk (*) are advertised in this issue.]

LAW REPORTS.

OFFICIAL REFEREE'S COURT.
(Before Mr. VEREY.)

Action by Builders and Engineers: G. A. Clarke & Co. *v.* Hewlett & Blondeau, Ltd.

MR. VEREY, one of the High Courts Official Referees, on June 2 gave judgment, after an eight days' hearing, in an action in which Messrs. G. A. Clarke & Co., builders and engineers, of Smedley-street, Wandsworth, claimed from Mrs. Maurice Hewlett and Mr. Blondeau, the famous flying man, trading as Messrs. Hewlett & Blondeau, Ltd., at Seagrave, near Luton, Beds, the sum of £417 9s. 6d., balance of contract price for building aeroplane sheds. The defendants, who were the builders of the "Beta" and were engaged in the construction of aeroplanes for the Army and Navy, counterclaimed for bad workmanship and delay in carrying out the contract, and for damages to their business in consequence. In May of last year it became necessary for the defendants to secure additional accommodation for their work, and on the 28th of that month the plaintiffs contracted to provide an aero building and complete it within twenty-eight days of that date. This they did not do, and they alleged that the delay was the result of alterations in the original plans required by the defendants. The Referee, in giving judgment, said that during the hearing he had gone carefully into the evidence of the men employed over the work and of quantity surveyors, the witnesses for the plaintiffs having measured from the plans, while those for the defendants measured from the site, and he was of opinion that defendants' witnesses as to prices and quantities were more reliable. That being so, he found that the defendants were entitled to deduct from the £417 claimed the sum of £103. As to the counterclaim, he found that the allegation of faulty work had been proved. In respect of this he found that defendants were entitled to £36 12s. of the £51 which they claimed, in addition to £80 16s. in respect of certain allowances. As to the claim for damages, he said there was no doubt the plaintiffs knew that the defendants had to give up the premises which they had been using in June, and that it was necessary for them to have the new building ready by that date, and there was a verbal agreement proved that the roof of the main building should be ready by June 17, and that the whole building should be completed within twenty-eight days from June 2. On the evidence he was satisfied that there had been delay in completing the work. The defendants said that they were making a profit of £50 a week, and as there was a delay of four weeks they were entitled to £200 damages. He found, however, that they were entitled to only two weeks. As a result he ordered judgment to be entered for the plaintiffs on the claim for £314 5s. 6d., with costs, and for the defendants on the counterclaim for £221 16s. 9d., with costs of the counterclaim.

KING'S BENCH DIVISION.
(Before Mr. Justice ATKIN.)

Bristol Builder's Claim. Colborne *v.* Jones and Others.

HIS LORDSHIP on June 8 delivered his reserved judgment in the action brought (through his trustee) by Mr. J. Colborne, builder and contractor, of Bristol, against the Rev. J. W. Jones and the Building Committee of Ammorford Church, in South Wales. The claim amounted to some £2,560, in connection with the erection of the church, plaintiff alleging that the Building Committee, through their architect, Mr. W. D. Jenkins, had wrongfully determined the contract. The defendants counterclaimed damages, and said they were entitled to determine the contract as they did, owing (as they alleged) to delay. Plaintiff denied this, and said if there was any delay it was due to the defendants or their architect.

Mr. Morton, K.C., and Mr. Compton Smith

appeared for the plaintiff, Mr. Hawke, K.C., and Mr. Doughty representing the defendants.

His Lordship said the action was brought in respect of a contract dated in February, 1911, and the plaintiff's case was that, after the contract had proceeded for a considerable time, it was terminated by the defendants, and he was ejected from the site. He now claimed a *quantum meruit* in respect of the work he had done. Mr. Jenkins was the architect employed, and the builder was to erect the church in accordance with the specifications, bills of quantities, and plans. The contract provided for the completion of the church by March, 1912, and for the payment by the builder of £10 a week after that date as liquidated damages. One clause in the contract gave power to determine it in certain circumstances; there were provisions that the work should be done satisfactorily, and also for extras. The contract price was £5,349. In order to complete the church within the stipulated time there could be very little delay in the work. It was not until March 28, 1911, that the site was pegged out by the architect, and there were cross-charges of delay in respect of that matter; but, in his Lordship's opinion, the architect could have chosen an earlier date. There was a dispute as to the access to the site, but he (the Judge) did not think the building owner need give any particular access to the site. Alterations were made in the original contract, and these caused some delay, but not much. It was admitted by both sides that the contract date for the completion of the church would have to be altered. His Lordship was satisfied that the defendants had made suitable arrangements financially, and in his view the architect should have provided working drawings in ample time to allow the builder to proceed with the work expeditiously. He felt that there was some substantial delay in the work, attributable to the failure of the architect to provide working drawings within a reasonable time.

The church (added the Judge) was not completed until March of last year, and he now had to determine the rights of the parties under the contract. He held that the contract was wrongfully determined, and that the builder was entitled to recover, on a *quantum meruit*, a sum to be ascertained later.

His Lordship said there would be judgment for the plaintiff on the claim and on the counterclaim, and the amount to be recovered by him would have to be determined hereafter.

Mr. Hawke intimated that there might be an appeal.

PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

Since our last issue lead prices have been advanced and oils reduced.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River Thames.	£	s.	d.
Best Stocks	1	19	0
Picked Stocks for Facings	2	15	0

Per 1000, Delivered at Railway Depôt, London.

	£	s.	d.		£	s.	d.
Flettons	1	15	0	Best Blue Pressed Staffordshire	3	15	0
Best Fareham Red	3	12	0	Do. Bullnose	4	0	0
Best Red Pressed Ruabon Facing	5	0	0	Best Stourbridge Fire Bricks	4	0	0
GLAZED BRICKS—							
Best White, Ivory, and Salt Glazed Stretchers	13	0	0	D'ble Str'tch'rs	18	10	0
				Double Headers	15	10	0
				One Side and two Ends	19	10	0
Headers	12	10	0	Two Sides and one End	20	10	0
Quoins, Bullnose and 4½ in. Flats	16	10	0	Splays and Squints	18	0	0

Second Quality £1 10s. per 1000 less than best.

	s.	d.	
Thames and Pit Sand	7	6	per yard, delivered.
Thames Ballast	6	0	„ „
Best Portland Cement	38	6	per ton, „
Best Ground Blue Lias Lime	21	0	„ „

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 15s. 6d. per yard delivered.
Stourbridge Fireclay in sacks 35s. 0d. per ton at rly. dept.

STONE.

Per Ft. Cube.

	s.	d.
BATH STONE—delivered on road waggons, Paddington Depôt	1	7½
Do. do. delivered on road waggons, Nine Elms Depôt	1	9½

STONE (*Continued*).

PORTLAND STONE (20 ft. average)—

	s.	d.
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	4½
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2	6½

Per Ft. Cube, delivered at Railway Depôt.

	s.	d.		s.	d.
Ancaster in blocks	1	10	Closeburn Red Freestone	2	0
Beer in blocks	1	6	Red Mansfield Freestone	2	4
Greenshill in blocks	1	10	Talacre & Gwespyr Stone	2	4
Darley Dale in blocks	2	4			
Red Corsehill in blocks	2	3			

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s.	d.
Scappled random blocks	2	10
Per Ft. Super., Delivered at Railway Depôt.		
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto, ditto	2	6
3 in. sawn two sides slabs (random sizes)	0	11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0	7
1½ in. to 2 in. ditto, ditto	0	6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.	s.	d.
Scappled random blocks	3	0
Per Ft. Super., Delivered at Railway Depôt.		
6 in. sawn two sides landing to sizes (under 40 ft. super.)	2	8
6 in. rubbed two sides ditto	3	0
2 in. sawn two sides slabs (random sizes)	1	2
8 in. self-faced random flags	0	5

TILES.

	Per 1000 f.o.r. London. £	s.	d.
Best machine-made tiles or hand-made sand-faced tiles from either Broseley or Staffordshire district	2	12	6
Ornamental ditto	2	15	0
Hip and valley tiles (per dozen)	0	5	6

SLATES.

	Per 1000 of 1200 f.o.r. London. £	s.	d.
Best Blue Bangor slates, 20 by 10	11	5	0
First quality „ „	11	0	0
„ „ 16 by 8	5	10	0
Best Blue Portmadoc, 20 by 10	11	2	6
First quality „ „	10	12	6
„ „ 16 by 8	5	10	0

WOOD.

BUILDING WOOD.	At per standard. £	s.	d.		£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	21	10	0	..	22	0	0
Deals: best 3 in. by 9 in.	21	0	0	..	22	0	0
2 in. by 11 in.	23	0	0	..	23	10	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	19	10	0	..	20	10	0
Battens: best 2½ in. by 6 in. and 3 in. by 6 in.	0	10	0		less than 7 in. and 8 in.		
2 in. by 7 in.	20	0	0	..	—		
3 in. by 4 in.	21	0	0	..	—		
2 in. by 4½ in.	22	10	0	..	—		
3 in. by 4½ in.	21	10	0	..	—		
Deals: seconds	1	0	0	less than best			
Battens: seconds	0	10	0				
2 in. by 4 in. and 2 in. by 6 in.	18	10	0	..	19	10	0
2 in. by 4½ in. and 2 in. by 5 in.	16	0	0	..	17	0	0
Foreign Sawn Boards—							
1 in. and 1¼ in. by 7 in.	0	10	0	more than battens.			
¾ in.	1	0	0	„			
Fir timber best middling	At per load of 50 ft.						
Memel (average specification)	6	15	0	..	7	15	0
Seconds	6	0	0	..	6	10	0
Small timber (8 in. to 10 in.)	5	5	0	..	5	10	0
Small timber (6 in. to 8 in.)	4	10	0	..	5	0	6
Swedish balks	4	0	0	..	4	10	0
Pitch-pine timber (30 ft. average)	8	5	0	..	9	0	0

JOINERS' WOOD.	At per standard. £	s.	d.		£	s.	d.
White Sea: first yellow deals, 3 in. by 11 in.	33	15	0	..	35	0	0
Battens, 2½ in. and 3 in. by 7 in.	23	7	6	..	24	7	6
Second yellow deals, 3 in. by 11 in.	27	5	0	..	28	5	0
Do. 3 in. by 9 in.	25	5	0	..	26	5	0
Battens, 2½ in. and 3 in. by 7 in.	20	0	0	..	21	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	20	2	6	..	21	2	6
Battens, 2½ in. and 3 in. by 7 in.	19	0	0	..	20	0	0
Petrograd: first yellow deals, 3 in. by 11 in.	29	10	0	..	31	0	0
Do. 3 in. by 9 in.	25	5	0	..	26	5	0
Battens	19	5	0	..	20	5	0
Second yellow deals, 3 in. by 11 in.	21	10	0	..	23	0	0
Do. 3 in. by 9 in.	20	15	0	..	21	10	0
Battens	19	10	0	..	20	0	0
Third yellow deals, 3 in. by 11 in. / Do. 3 in. by 9 in.	19	10	0	..	—		
Battens	19	0	0	..	19	10	0
White Sea and Petrograd—							
First white deals, 3 in. by 11 in.	22	10	0	..	24	0	0
First white deals, 3 in. by 9 in.	21	0	0	..	22	10	0
Battens	18	10	0	..	19	0	0
Second white deals, 3 in. by 11 in.	20	0	0	..	21	0	0
Second white deals, 3 in. by 9 in.	19	0	0	..	20	0	0
Battens	18	0	0	..	18	10	0
Pitch-pine deals	34	0	0	..	35	0	0
Under 2 in. thick extra	0	10	0	..	1	0	0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	At per standard. £	s.	d.		£	s.	d.
Columbian or Oregon Pine, best quality	28	0	0	..	29	0	0
Yellow Pine—First, regular sizes	57	0	0	upwards.			
Oddments	39	0	0	„			
Seconds, regular sizes	43	10	0	„			
Oddments	37	0	0	„			
Kauri Pine—Planks per ft. cube	0	7	6	..	—		
Oak Logs—							
Large, per ft. cube	0	5	6	..	0	6	6
Small „ „	0	4	6	..	0	5	5
Wainscot Oak Logs, per ft. cube	0	10	6	..	0	12	6
Dry Wainscot Oak, per ft. super, as inch	0	1	0	..	0	1	3
¾ in. do. do.	0	0	10	..	0	1	0
Dry Mahogany—Honduras, Tabasco, per ft. super, as inch	0	1	0	..	0	1	4
Selected, Figury, per ft. super, as inch	0	1	6	..	0	2	6
Cuba Mahogany	0	1	6	..	0	2	6
Dry Walnut, American, per ft. super, as inch	0	1	0	..	upwards. 0	1	3
French, "Italian," Walnut	0	1	0	..	0	1	6
Teak, per load (Rangoon or Moulmein)	28	0	0	..	34	0	0
Do., do. (Java)	24	0	0	..	27	0	0
American Whitewood planks, per ft. cube	0	6	6	..	0	7	6
Prepared flooring, etc.—					Per square.		
1 in. by 7 in. yellow, planed and shot	0	18	0	..	1	0	0
1 in. by 7 in. yellow, planed and matched	0	18	0	..	1	0	0
1¼ in. by 7 in. yellow, planed and matched	1	2	0	..	1	5	0
1 in. by 7 in. white, planed and shot	0	17	6	..	1	0	0
1 in. by 7 in. white, planed and matched	0	18	0	..	1	0	0
1¼ in. by 7 in. white, planed and matched	1	2	0	..	1	5	0
¾ in. by 7 in. yellow, matched and beaded or V-jointed boards	0	14	6	..	0	16	6
1 in. by 7 in. „ „	0	18	6	..	1	1	0
¾ in. by 7 in. white „	0	14	6	..	0	16	6
1 in. by 7 in. „ „	0	18	6	..	1	1	0

6 in. at 6d. to 9d. per square less than 7 in.

METALS.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton. £	s.	d.		£	s.	d.
Rolled Steel Joists, ordinary sections	11	0	0	..	12	0	0
Compound Girders, ordinary sections	13	10	0	..	14	10	0
Steel Compound Stanchions	14	10	0	..	16	10	0
Angles, Tees, and Channels, ordinary sections	13	10	0	..	14	10	0
Flitch Plates	13	10	0	..	14	10	0
Cast Iron Columns & Stanchions, including ordinary patterns	10	10	0	..	11	10	0
IRON—	Per ton, in London.						
Common Bars	11	10	0	..	12	0	0
Staffordshire Crown Bars, good merchant quality	12	0	0	..	12	10	0
Staffordshire "Marked Bars"	13	0	0	..	—		
Mild Steel Bars	12	0	0	..	13	0	0
Steel Bars, Ferro-Concrete quality, £12 10s. basis price.							
Hoop Iron, basis price	13	0	0	..	—		
„ „ Galvanised	25	0	0	..	—		
(* And upwards, according to size and gauge.)							
Sheet Iron Black—							
Ordinary sizes to 20 g.	13	0	0	..	—		
„ „ 24 g.	14	0	0	..	—		
„ „ 26 g.	15	10	0	..	—		
Sheet Iron, Galvanised, flat, ordinary quality—							
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	18	10	0	..	—		
Ordinary sizes to 22 g. and 24 g.	19	0	0	..	—		
Ordinary sizes to 26 g.	20	0	0	..	—		
Sheet Iron, Galvanised, flat, best quality—							
Ordinary sizes to 20 g.	20	10	0	..	—		
„ „ 22 g. and 24 g.	21	0	0	..	—		
Ordinary sizes to 26 g.	22	0	0	..	—		
Galvanised Corrugated Sheets—							
Ordinary sizes, 6 ft. to 8 ft. 20 g.	18	0	0	..	—		
Ordinary sizes, 22 g. and 24 g.	18	10	0	..	—		
Ordinary sizes, 26 g.	19	0	0	..	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	15	0	0	..	—		
Best Soft Steel Sheets, 22 g. & 24 g.	16	0	0	..	—		
Best Soft Steel Sheets, 26 g.	17	10	0	..	—		
Cut Nails, 3 in. to 6 in.	14	10	0	..	15	0	0
(Under 3 in. usual trade extras.)							

LEAD, &c.

Delivered in London.

	£	s.	d.		£	s.	d.
LEAD—Sheet, English, 4 lb. and up	30	10	0	..	—		
Pipe in coils	31	0	0	..	—		
Soil pipe	34	0	0	..	—		
Compo pipe	34	0	0	..	—		
NOTE—Delivery in country in not less than 5 cwt. lots, 1s. per cwt. extra.							
COPPER—							
Strong Sheet ..... per lb.	0	1	4	..	—		
Thin „ ..... „	0	1	6	..	—		
Copper nails ..... „	0	1	4	..	—		
Copper wire ..... „	0	1	4	..	—		
BRASS—							
Strong Sheet ..... „	0	1	3	..	—		
Thin ..... „	0	1	4	..	—		
TIN—English Ingots .. „	0	1	9	..	—		
SOLDER—Plumbers' .. „	0	0	10	..	—		
Tinmen's ..... „	0	1	1	..	—		
Blowpipe ..... „	0	1	3	..	—		

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

Per Ft. Delivered.

15 oz. thirds	4¼d.	26 oz. fourths	5¾d.
,, fourths	4½d.	32 oz. thirds	8¼d.
21 oz. thirds	5½d.	,, fourths	7d.
,, fourths	5d.	Fluted sheet, 15 oz.	5¼d.
26 oz. thirds	6¼d.	,, 21 oz.	6¼d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

Per Ft. Delivered.

¼ Rolled plate	3d.
⅜ Rough rolled and rough cast plate	3¼d.
½ Rough rolled and rough cast plate	4d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	4½d.
Ditto, tinted	6d.
Rolled sheet	3½d.

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	7
,, ,, ,, in barrels	,,	0	2	8
,, ,, ,, in drums	,,	0	2	11
Boiled ,, ,, in barrels	,,	0	2	10
,, ,, ,, in drums	,,	0	3	1
Turpentine in barrels	,,	0	2	11
,, in drums	,,	0	3	2
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		35	0	0
Red Lead, Dry	per ton	35	0	0
Best Linseed Oil Putty	per cwt.	0	10	0
Stockholm Tar	per barrel	1	12	0
GENUINE WHITE LEAD PAINT— Blackfriars, Nine Elms, or Park, etc., brands (in 14 lb. tins), not less than 5 cwt. lots	per cwt. delivered	2	3	6

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	6
Fine Elastic Carriage	0	12	9
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	10	0
Finest Pale Durable Copal	0	18	6
Extra Pale French Oil	1	1	0
Eggshell Flating Varnish	0	18	0
White Plate Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	0
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	0
Berlin Black	0	16	0
Knotting	0	10	6
French and Brush Polish	0	10	0

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Joiner: Lazenby Bros., Leeds*	335 9
Plumber: F. H. Hargreaves, Churwell*	54 15
Plasterer: I. Iredale & Son, Birstall*	15 0
Slater: J. Kellett, Morley*	83 3
Patent Glazing: The Standard Patent Glazing Company, Dewsbury*	59 19

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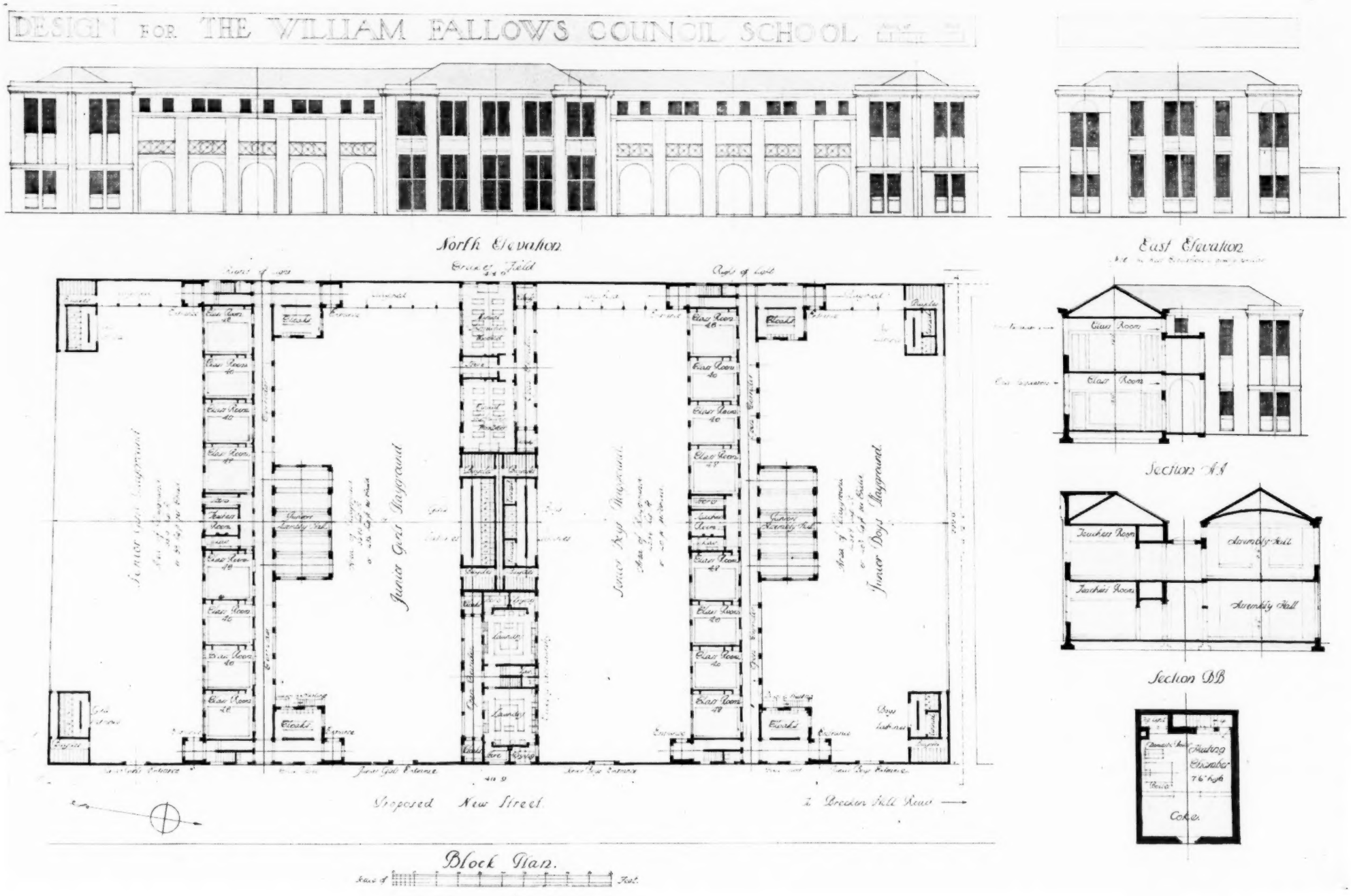

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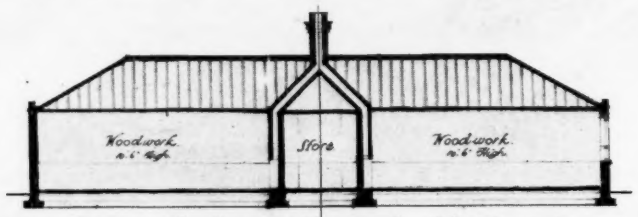
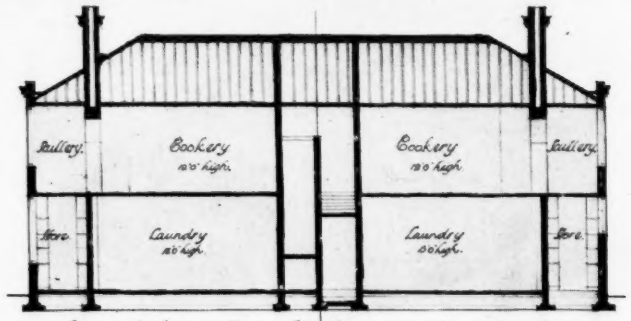
DESIGN FOR THE WILLIAM FALLOWS COUNCIL SCHOOL



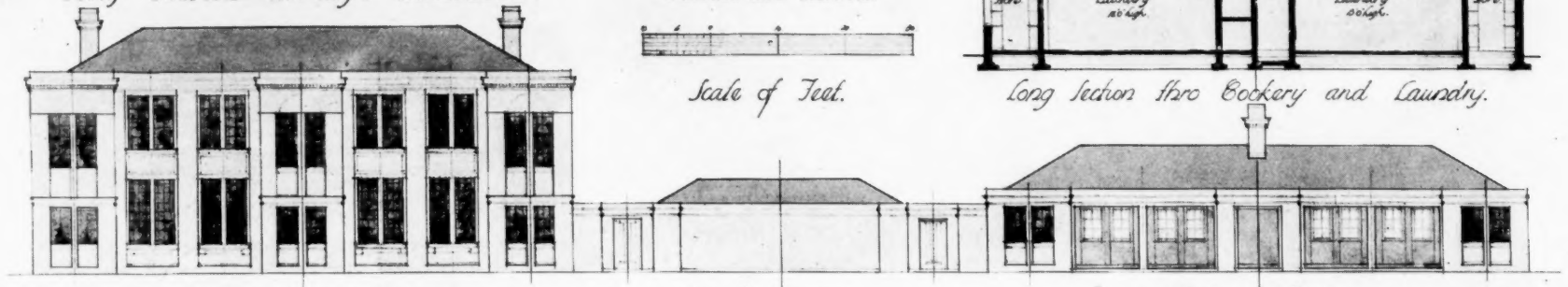
Long Section through Woodwork.

Section thro Latrines.

Scale of Feet.

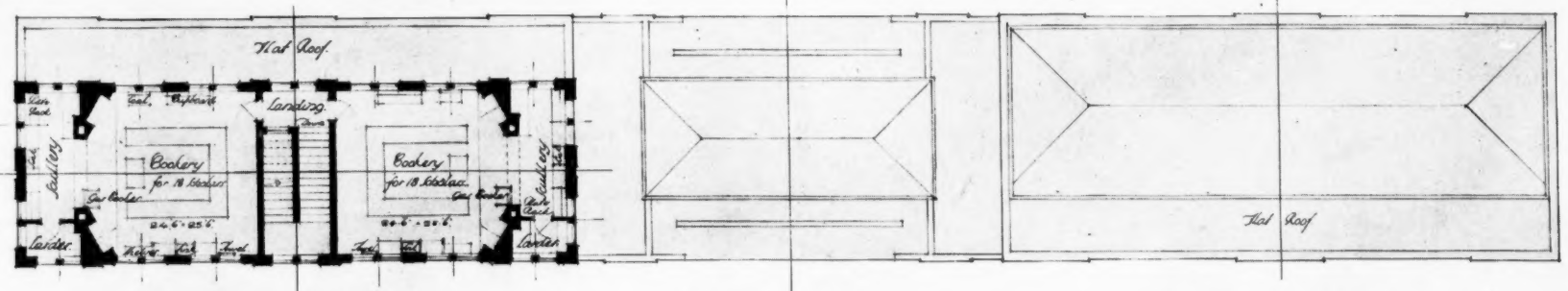


Long Section thro Cookery and Laundry.



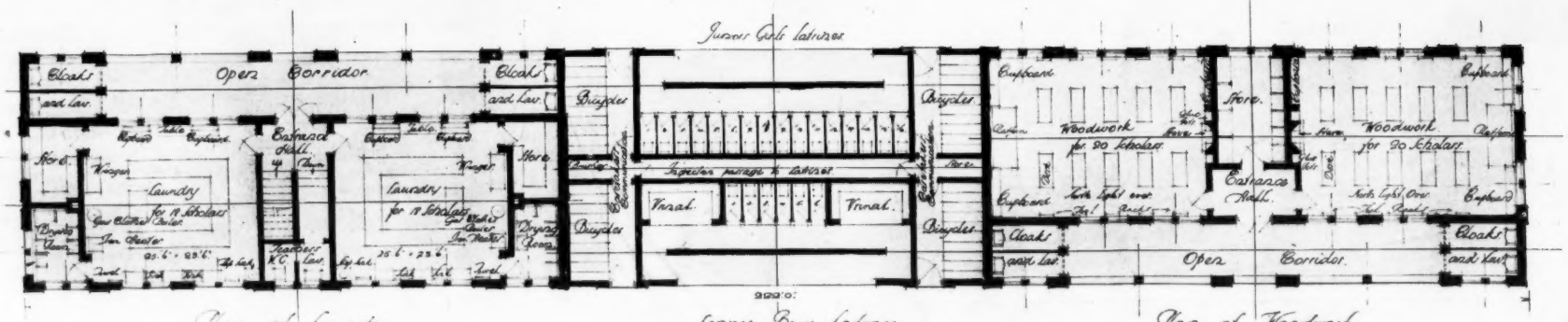
Cookery and Laundry Block. Senior Boys Latrines. Woodwork Centre.

North Elevation facing Seniors Boys Playground.



Plan of Cookery. Roof Plan of Latrines. Roof Plan of Woodwork.

Plan of First Floor.



Plan of Laundry. Seniors Boys Latrines. Plan of Woodwork.

Plan of Ground Floor.

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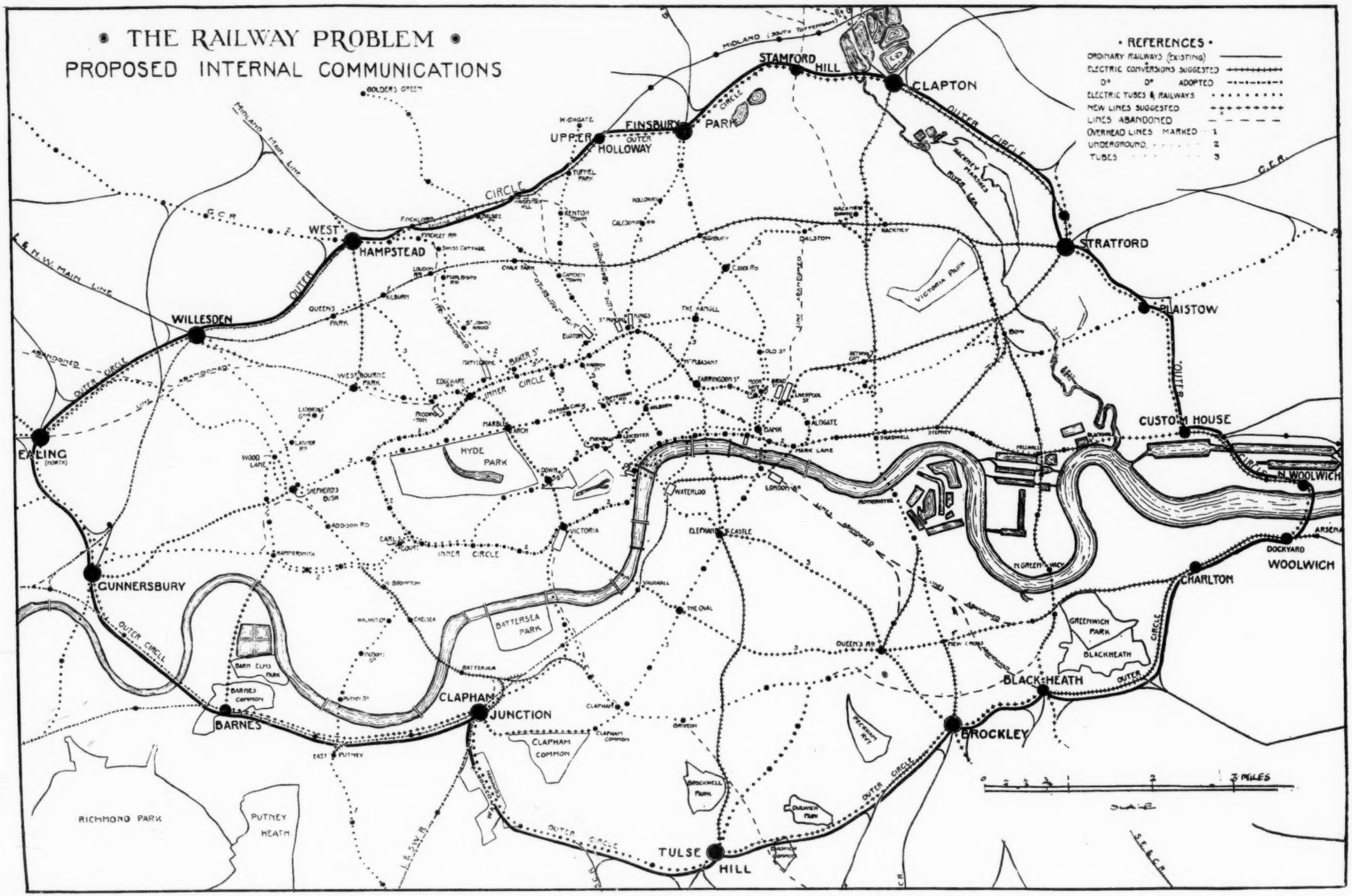
Plan of Ground Floor.

COUNCIL SCHOOLS, MIDDLESBROUGH: SELECTED DESIGN.—By Mr. James Forbes, Licentiate R.I.B.A.



PLAN OF LONDON RAILWAYS SHOWING SUGGESTED REARRANGEMENT AND ILLUSTRATING ARTICLE IN THE "CIVIC SECTION."

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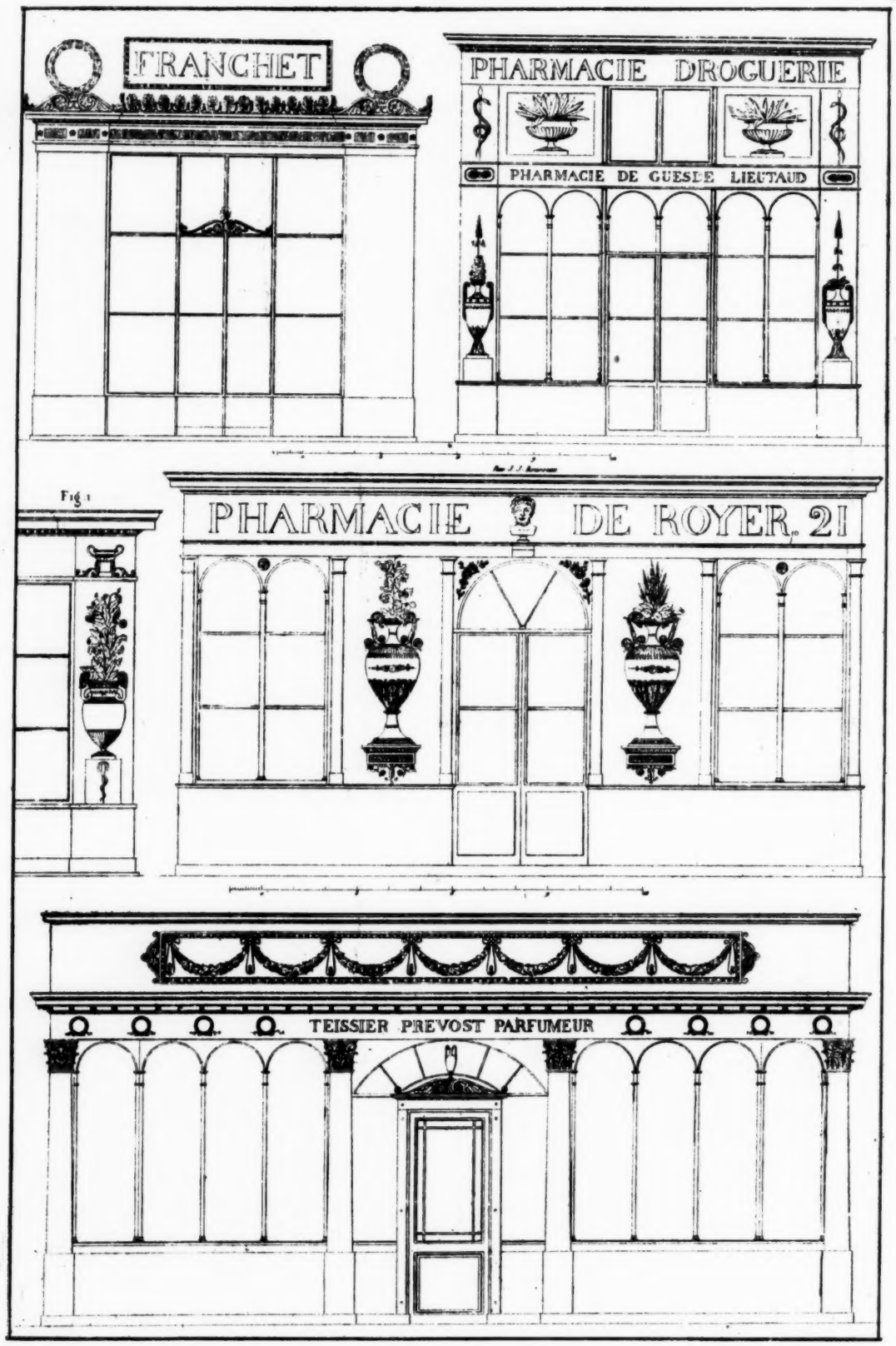
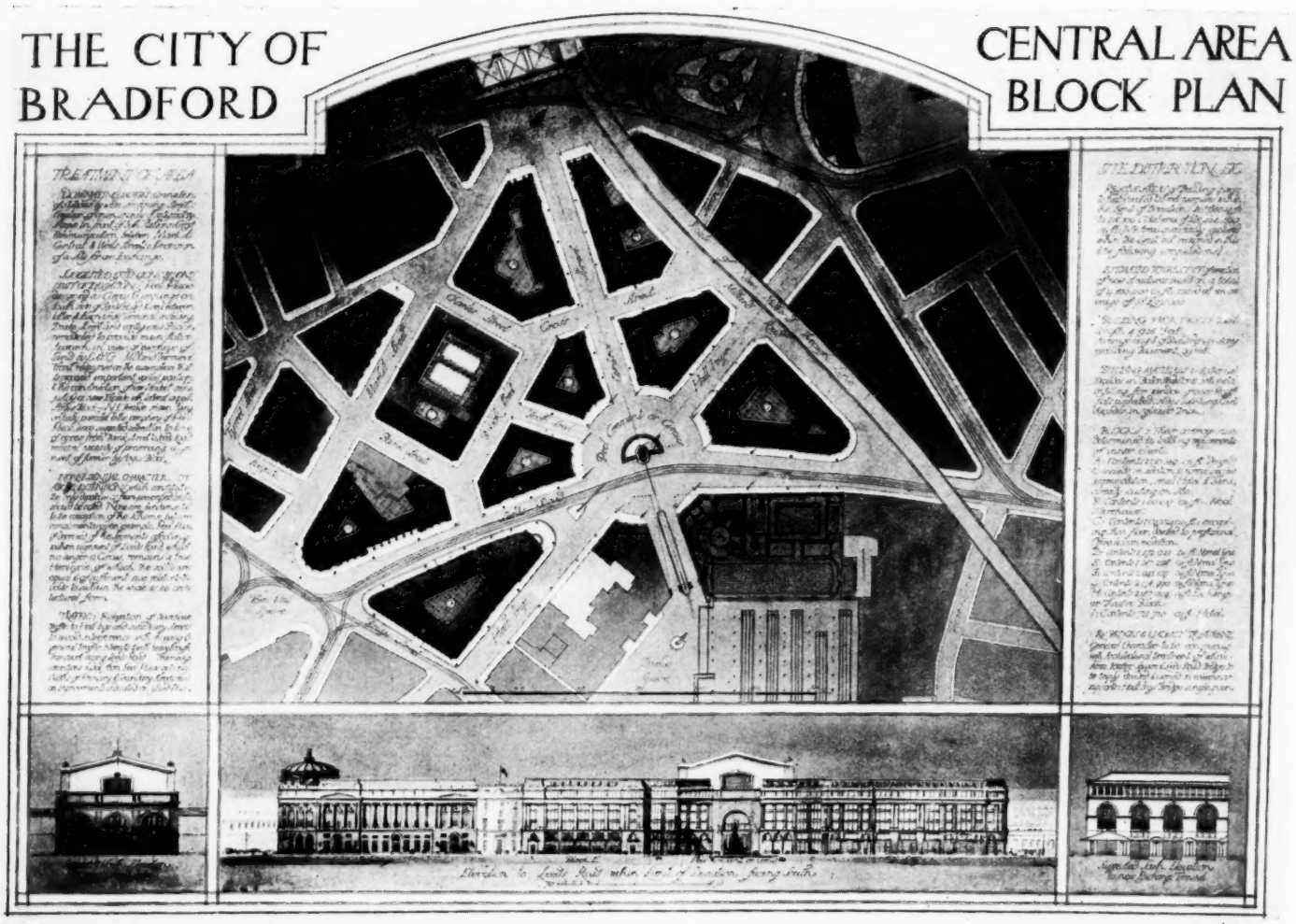
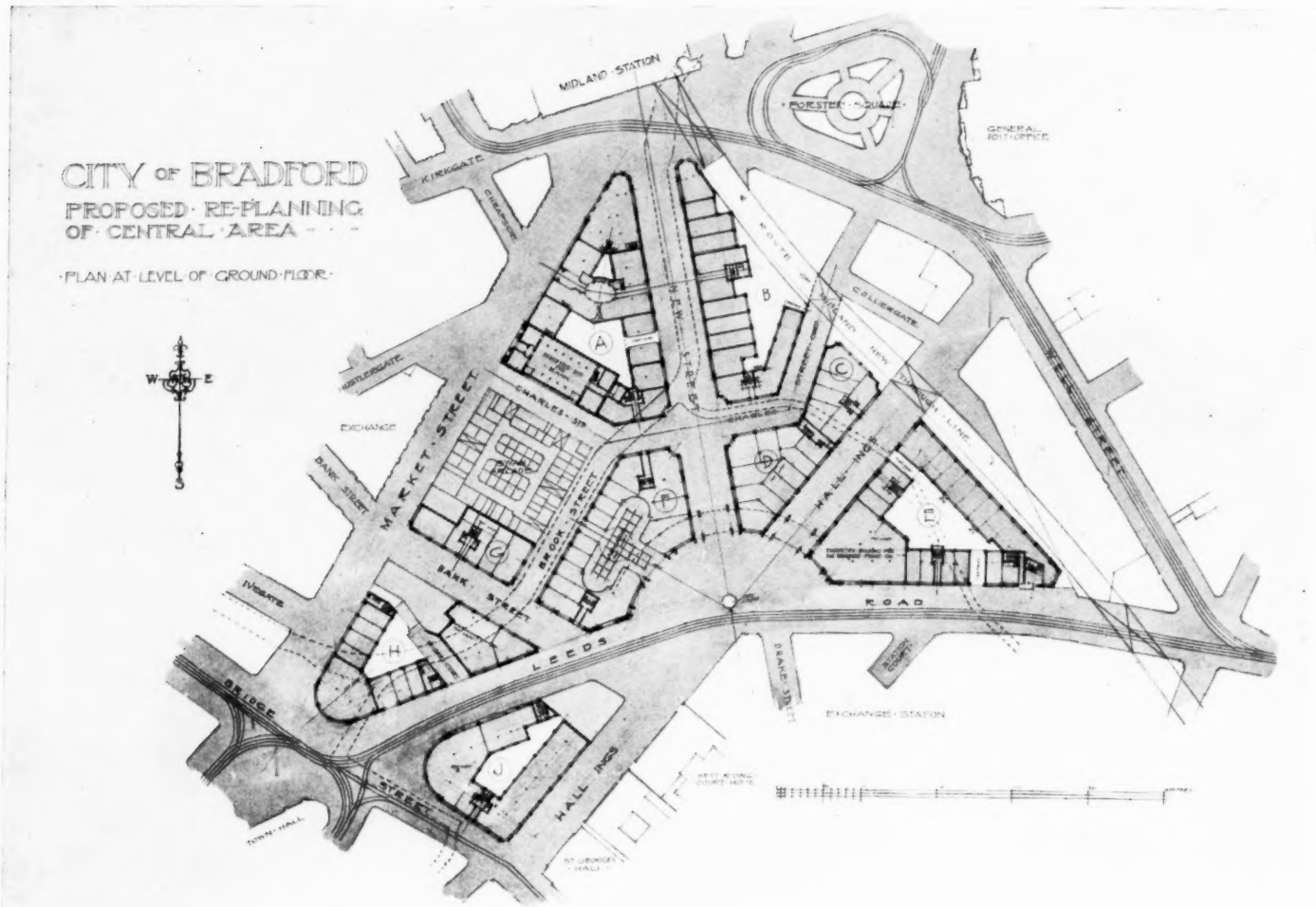


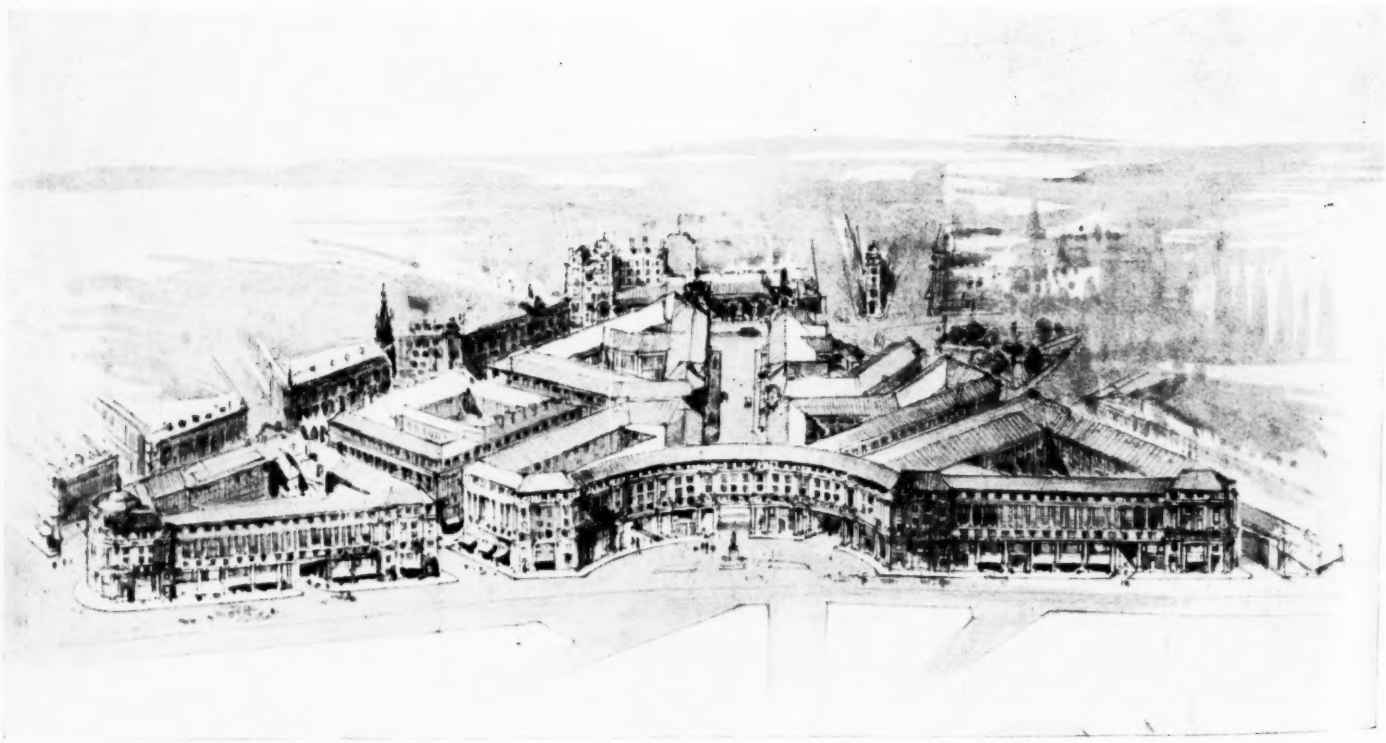
TYPICAL FRENCH SHOP FRONTS.

(From Thiollet's "Principes et Études d'Architecture.")



REPLANNING OF CENTRAL AREA, BRADFORD: SECOND PREMIATED DESIGN.—By Messrs. P. Abercrombie & L. B. Budden.

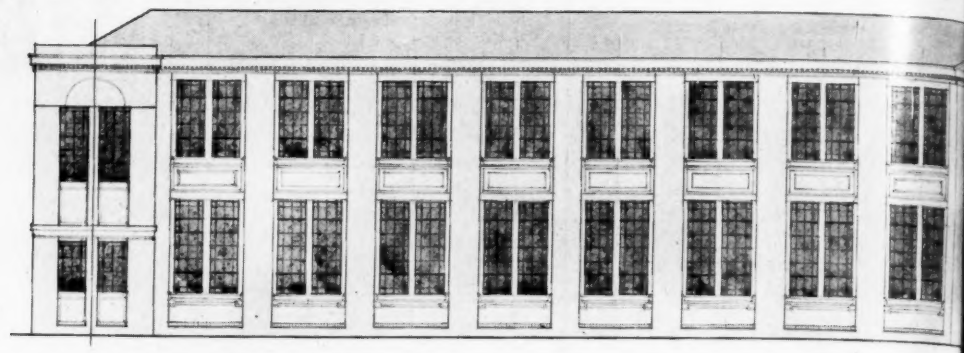


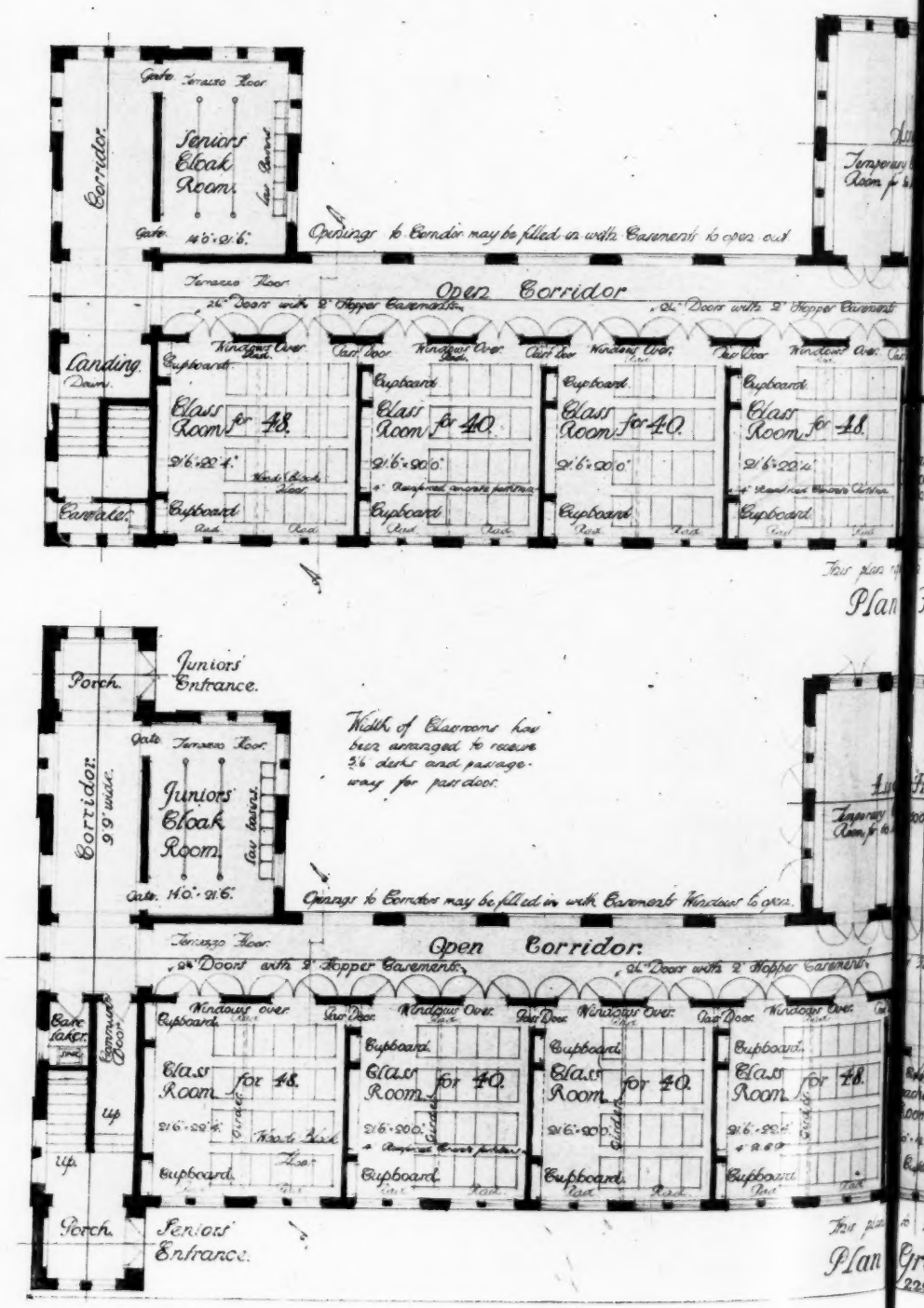


REPLANNING OF CENTRAL AREA, BRADFORD: FIRST PREMIATED DESIGN.—By Messrs. J. S. Gibson, Skipwith, & Gordon.

ON.

DESIGN FOR THE WILLIAM

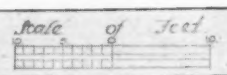


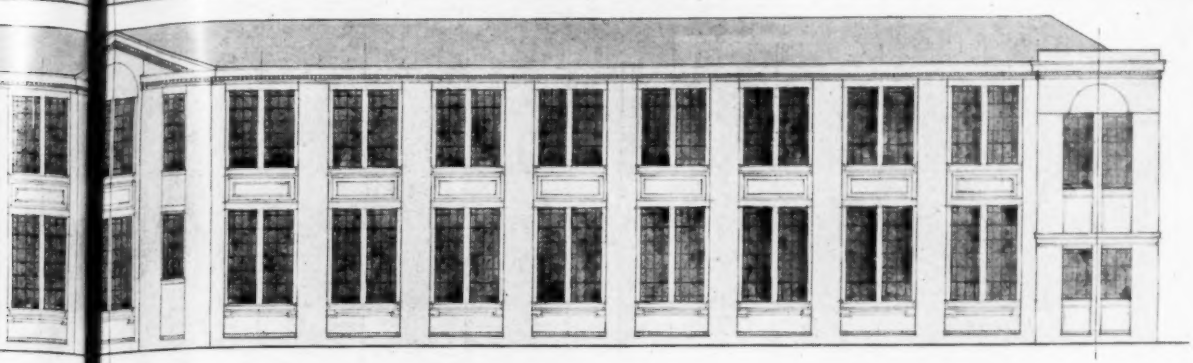


Plan First

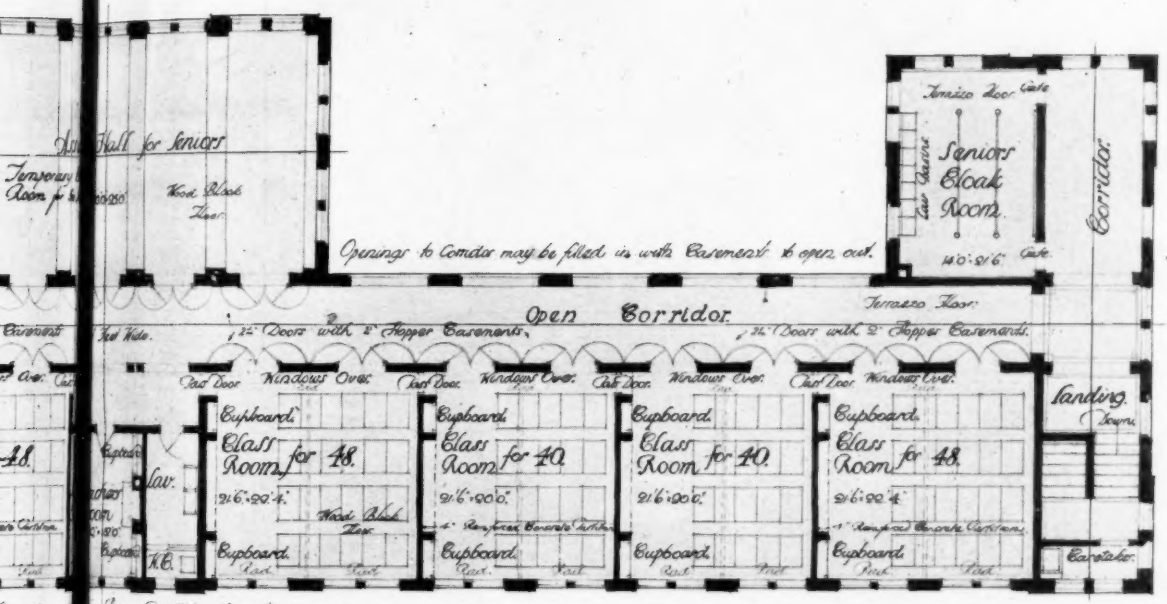
Plan Ground

...LOW'S COUNCIL SCHOOL.

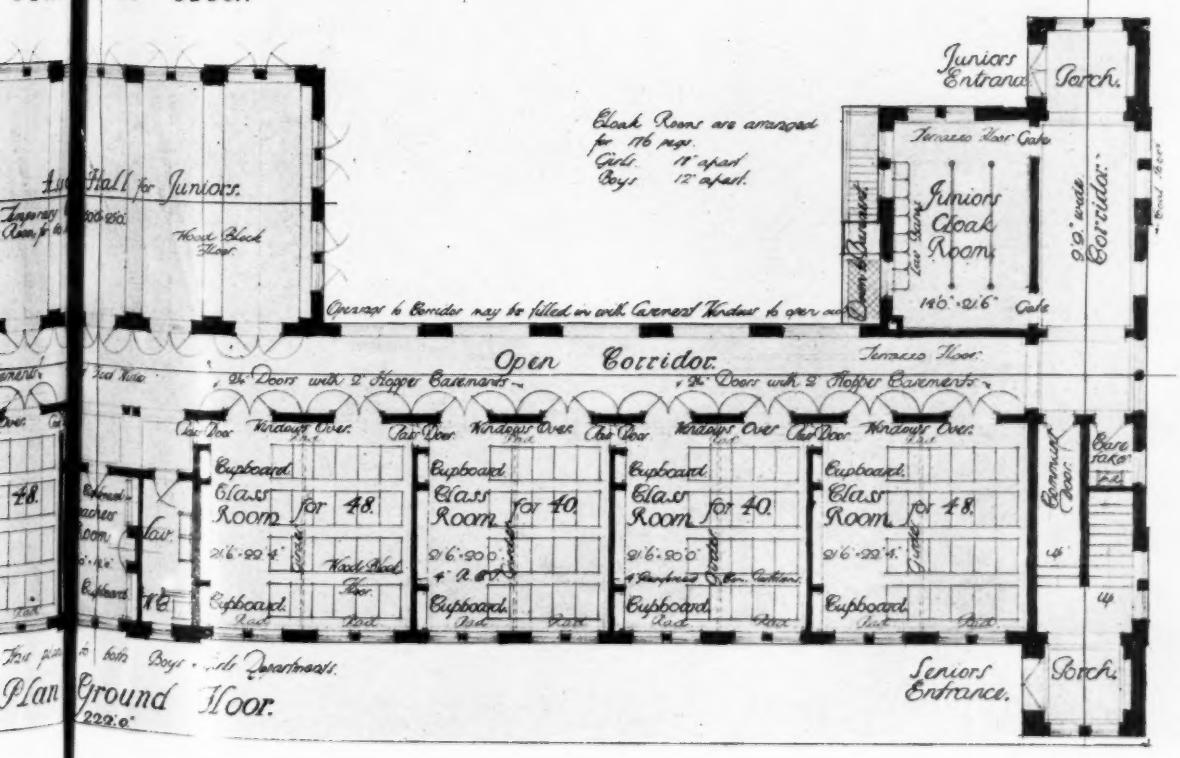




...Elevation.



...Plan First Floor.



...Plan Ground Floor.
22'0"

...UGH: ...ED DESIGN.—By Mr. James Forbes, Licentiate R.I.B.A.